1954

JAN - APR 1954

CALHOUN AND BATCHTOWN REFUGES
NARRATIVE REPORT
JANUARY, FEBRUARY, MARCH, APRIL, 1954

I. GENERAL

A. Weather Conditions:

The maximum temperatures in January and April were lower this year than for the same months a year ago. February and March had a higher reading. Minimum readings were lower in every month during the period. During the last part of March and the first part of April high winds occurred, reaching tornado proportions at times, and damage to private property was done.

Relative readings for this period and the same period last year are shown below:

Month	Year	Maximum	Minimum	Precipitation
January	1953	64	12	2.12
	1954	63	4	1.25
February	1953	64	19	1.38
	1954	74	15	1.04
March	1953	73	25	3.62
	1954	76	15	1.19
April	1953	90	34	3.09
	1954	87	22	3.58
			1953 Total	10.19
			1954 Total	7.06

Precipitation for the period was 7.06, compared to 10.19 for the same period a year ago. All months except April showed less rain this year than a year ago. It is considered very dry here.

B. Water Conditions:

The river was lower in all four months than for the same period a year ago. There is no high water in this portion of the river yet. Indications are that there might not be any high water this spring.

The fluctuations of the dam were not bad in Pool 26. There was a drawdown in Pool 25 during the month of January which almost drained the Batchtown Refuge, but levels came back to normal in late February.

A comparison of pool levels in Pool 26, compared to the same period in 1953, is shown in the following table:

Month	Year	High	Low	Difference
January	1953	15.1	14.6	.05
	1954	15.2	14.1	1.1
February	1953	15.5	14.5	1.0
	1954	15.3	14.2	1.1
March	1953	16.0	14.9	1.1
	1954	15.9	14.5	1.4
April	1953	17.2	15.1	2.1
	1954	15.7	15.0	.07

Maximum monthly variation in 1954 was 1.1, compared with 2.1 in 1953. The river never froze over during the period.

II. WILDLIFE

A. Migratory Birds:

1. Populations and Behavior:

(a) Waterfowl:

The duck population was higher this spring than last year. However, like last year, there was a big population at the beginning of the period. Throughout the period it was difficult to tell when new ducks came in or went out as there was a constant dribble of birds through.

On the Calhoun Refuge there were 203,150 ducks present the first week of the period, including 200,000 mallards and 200 blacks. This number dropped the second week to 22,500, but on the third week the number came back up to 103,700. From then on the population varied up and down the rest of the period. At the end of the period we had very few ducks in the area. The population of ducks we had here in January did not go south. Instead they went up to the Sny bottoms.

Mallards were present in numbers when the report period opened; peaked January 9 with 200,000; dropped to 500 birds on April 9; and there were 100 mallards at the close of the period.

Blacks were also present when the report period opened; peaked at 400 on March 27; and 100 were present on April 9. Very few were left at the end of the period.

Gadwall were present only from March 27 to April 3; peaked at 200 twice on both dates; and were last seen April 3.

Pintails were first seen the week of January 9, with 2,000 birds. On March 27 this species peaked at 3,000, and they were last seen on April 3.

Green-wing teal were not seen throughout the period. Blue-wing teal made their appearance March 20, with 500 birds; peaked at 6,000 birds on April 3; and about that many birds were present on April 10. At the end of the period several were present in the area.

Shovellers arrived the week of March 27, with 200 birds; and peaked at 500 on April 19. It is estimated that 200 were present at the end of the period.

Redheads were first observed on February 6, with 100 birds, and never got higher than that through the period. They were last observed on March 27.

Scaup were here at the start of the period, with 500 birds. They peaked at 36,000 on April 3, and about 500 were here at the end of the period.

Goldeneye showed up January 2, and were here throughout the period, peaking at 200 February 6 and 13. They were last observed March 27, with 100 birds present.

Buffle-head were not observed during the period, compared with 800 last year.

Mergansers were present from the first week in January to April 3; peaked at 400 birds on February 13; and were last observed on April 3, with 200 birds.

It is estimated that 262,100 ducks used the Calhoun Refuge this spring, compared to 341,600 in the spring of 1953. The peak population for Calhoun occurred the week ended January 9, when numbers reached 203,150 birds. Peak numbers in 1953 were found the week ended February 21, with only 175,000 ducks present.

For the period, Calhoun registered 4,947,950 duck days use, compared to 8,668,800 days use for the same period in 1953.

Thus, although the peak population was higher than a year ago, and while total waterfowl using the area was about 2/3 as great as 1953, it can be seen that duck days use amounted to only about half the use a year ago.

Mallards accounted for about 70% of total use, while all puddlers accounted for 3,900,400 days use. Divers, on the other hand, made up only 1,047,550 days use this spring.

There was a tremendous increase in ruddy ducks on the Calhoun Refuge this spring, when the peak reached 5,000 birds for a three week period. A year ago this species peaked at 800 birds. This spring there were 147,000 days use made by ruddies, compared to only 14,000 days in 1953, or only about 10% of the use made this year.

Scaup, too, showed an increase, with a peak of 36,000 this year, compared to 30,000 in 1953. However, total days use was down this spring, when only 632,100 days use was recorded, compared to 956,900 days use in 1953.

There was a movement of waterfowl in the area starting on January 16, when a lot of the birds from Calhoun Refuge moved north to the Sny bottoms. They continued to use the Sny until they finally moved north. Large numbers of birds were observed moving through, but not stopping on either Calhoun or Batchtown Refuges.

On the Batchtown Refuge an estimated 238,000 ducks appeared this spring, compared to 131,630 in 1953. The peak population on Batchtown this spring was 203,000 the week ended January 30.

On the Batchtown Refuge 150,000 mallards were present at the beginning of the report period, compared to 15,000 in 1953. This species peaked at 200,000 the fourth week of the period, and 100 were still present when the period closed.

Blacks were observed as the period opened, with 200 present. This number remained constant until the week ended April 3, when 500 were present for the peak numbers. There were 25 blacks present when the period closed.

Gadwall were first seen and peaked at 300 birds the week ended February 13; and they were last seen the week ended April 17, when 100 were counted.

Pintails arrived the first week of January, with 2,000 birds; they peaked at 10,000 the week ended March 27; and were last seen on April 3, when 300 were found.

No green-winged teal were seen this spring. Blue-winged teal, however, appeared the week ended March 20, when 500 appeared; peaked at 5,500 on April 10; and 500 were present as the period ended.

Shovellers were first observed the week ended March 27, with 200 birds present; peaked from April 3-10 at 1,000; and 200 were present as the period closed.

Wood ducks arrived the week ended March 20, when 200 birds came in; peaked at 1,000 the week ended April 3; and 300 were still present at the end of the period.

Redheads were present the first week of the period (100 present), but were not seen again until the week ended March 27, when the peak of 150 occurred. This was also the last occurrence of this species.

Scaup showed some increase this spring. As the period opened, 2,000 were present. The species peaked at 10,000 the week ended April 3, and 100 were present as the period closed. There was an estimated 244,300 days use by this species, compared to 210,350 a year ago.

Golden-eyes were present from the beginning of the period, when 100 were seen until the week ended March 27, when 200 were found.

Bufflehead were first observed the week ended March 20, with 100 birds. This represents the peak and last seen data too, for they were found only during that week.

Ruddies, first appearing the week ended February 27, when 400 birds arrived, showed quite an increase this spring. The peak of 2,000 this spring, compared to last year's peak of only 300, indicates the increase. Days use this year totaled 48,300, compared to only 6,300 days in 1953.

This spring an estimated 8,430,800 days use was made of Batchtown Refuge, compared to 2,253,825 days a year ago. Thus, we had almost four times as much use of Batchtown this year as last.

Mallards comprised 7,428,400 of the total days use, for a preponderant majority. Puddlers totaled 7,983,325 days use, compared to 447,475 days use by divers.

The following table shows peak concentrations of puddlers and divers, together with estimated duck days use, for the Calhoun and Batchtown Refuges:

	Peak Concentrations		Duck Day Use	
	Calhoun	Batchtown	Calhoun	Batchtown
Puddle ducks:				
Mallard	200,000	200,000	3,535,000	7,428,400
Black	400	500	19,600	22,575
Gadwall	200	300	3,500	4,900
Baldpate	3,000	4,000	58,100	90,650
Pintail	3,000	10,000	112,700	256,200
B.w. teal	6,000	5,500	147,000	136,500
Shoveller	500	1,000	12,600	23,100
Wood duck	300	1,000	11,900	21,000
TOTALS			3,900,400	7,983,325
Divers:				
Redhead	100	150	3,850	1,750
Ring-neck	3,000	2,000	51,100	108,500
Canvas-back	4,000	400	179,900	14,525
Scaup	36,000	10,000	632,100	244,300
Golden-eye	200	200	9,800	11,900
Bufflehead	-	100	-	700
Ruddy	5,000	2,000	147,000	48,300
Mergansers	400	400	16,800	17,500
Other ducks	1,000	-	7,000	-
TOTALS			1,047,550	447,475
GRAND TOTALS			4,947,950	8,430,800

(b) Geese:

Canada geese were present on Calhoun Refuge all winter, with not less than 500 present. They peaked at 4,000 the week ended March 13; and were last seen the week of April 3, when 50 were still present. An estimated 71,750 days use was made by Canada geese.

No Canada geese occurred throughout the spring on the Batchtown Refuge.

Blue geese used both Calhoun and Batchtown Refuges this spring. However, while they were present throughout the spring on Calhoun, from the peak of 1,200 as the period opened to an average of 500 during the period, they were found only once on Batchtown, where 200 were found the week ended April 3. Goose days use of Calhoun by blue geese amounted to 56,000 days, compared to only 1,400 days use on Batchtown.

Snow geese followed pretty much the same pattern. As the period opened, 1,000 were present on Calhoun, remaining all

winter at around 500 birds; and peaking at 1,500 the week ended March 13. Snow geese used Calhoun Refuge a total of 58,800 days. On Batchtown, however, only 200 were seen during the spring. These occurred the week ended April 3, the same week the blues were present. A total of only 1,400 days use was made of the Batchtown Refuge by snow geese. Probably the 200 each of snows and blues which were found on Batchtown were some which dropped in from the Calhoun flock.

(c) Swans:

None were observed on either area this period.

(d) Egrets:

Three egrets were observed on Stump Lake April 20, compared with none last year.

(e) Shorebirds and Other Water Birds:

Wilson snipe are increasing in this area. About 100 birds have been observed this spring, compared with 12 last year. Killdeer and plovers are here in good numbers; sandpipers are here in good numbers; and a few yellow-legs were observed.

Blue heron are here in good numbers, with an estimated 200 birds in the area. They are back at their old nesting place on the Missouri shore and offshore Helmbolt Island. There are an estimated 175 birds in the same area as last year.

2. Food and Cover:

The food conditions were the best in several years, as there was open water all winter and the sharecropping fields had plenty of corn for ducks to feed on. The cornfields adjacent to the refuge were a big factor in feeding the duck population during this period. The ducks and geese fed throughout the Mississippi River bottoms from Alton, Illinois, to Hannibal, Missouri, and up the Illinois River bottoms. Lots of blue-wing teal were reported using the inland ponds this spring.

B. Upland Game Birds:

No upland game birds are present on either the Batchtown or Calhoun Refuges.

There is ample food and cover present on both areas to sustain fairly high population of these birds in event any should

become established in the areas. The high water in the spring discourages upland game from using the bottomlands.

C. Big Game Animals:

No big game animals are present on either area.

D. Fur Bearers:

(a) Muskrat:

The muskrat population is looking better in both areas due to the low water the last two years. Commercial fishermen working in the refuge report that lots of muskrats were observed nesting in old stumps this spring. They all report that we have an increase over last year. More pushups have been seen this spring than last year.

(b) Mink:

The mink population is at a standstill. No more signs have been observed this spring than last year, and fishermen report no increase in this species. They have been trapped more than any other animals as the price was better, and this may be holding them down.

(c) Skunk:

No skunk signs have been noted on either area this spring.

(d) Beaver:

Beaver are increasing on all islands on the Mississippi and Illinois Rivers. In some areas a considerable amount of timber is being cut by them each year. None were reported caught last fall by trappers, who reported the price was too low to pay for the time and effort.

(e) Otter:

No otter sign has been noted on either area.

III. REFUGE DEVELOPMENT AND MAINTENANCE

A. Physical Development:

During the period the west line of the Calhoun Refuge was surveyed out and reposted to bring the boundary back where it belongs. Several boundary lines in the Calhoun area were brushed out and the posting gone over.

In the Batchtown Refuge area the exterior boundary line in the Blackwell area was taken out to conform to the current land status. This was also done in the Gilead Club area. The signs removed were stock-piled on Maple Island for use when the new refuge line is surveyed out and reposted.

B. Planting:

4. Cultivated Crops:

During the period farm plans for the agricultural lands around Batchtown and Calhoun Refuges, which was made available to the Service under the recently consummated General Plan and Cooperative Agreement, were worked out on a tentative basis.

There were six agricultural units, with 105 acres, set up on the Batchtown Refuge, and 14 units, with 300 acres, set up on the Calhoun Refuge. Permits for sharecropping these lands have been issued, and working of the lands has started.

Farm plans for the two refuges were submitted and tentatively approved by the Regional Office during the period.

VI. PUBLIC RELATIONS

A. Recreational Use:

During the period the following recreational use was estimated for the two refuge units

Refuge	Days Use	
	Fishermen	Miscellaneous Use
Batchtown	2,390	1,135
Calhoun	2,515	1,550
	4,905	2,685

B. Refuge Visitors:

Superintendent Steele was here on January 16 to discuss routine refuge matters.

Refuge Management Biologist Green was here during the period February 9-14. While here he assisted in mapping farm units on the two refuges and in gathering necessary information for preparing the farm plans. He also assisted in surveying out the west boundary of Calhoun Refuge and in reposting the same.

Missouri Conservation Warden Robert Bright visited the areas on February 20.

E. Fishing:

Pole and line fishing started in February and was going good by the middle of March. Boat livery operators were doing good business by the end of the period. There have been some good catches of crappie and bluegills, and some large bass have been caught.

Commercial fishing was very good this period on the Mississippi River. Good catches of big catfish were taken; and excellent catches of buffalo and carp were taken on both the Mississippi and the Illinois Rivers.

F. Violations:

No cases were made during the period. No violations were observed, nor were any violations reported to the Refuge Manager this spring.

VII. OTHER ITEMS

A. Items of Interest:

During the period the 1948 Chevrolet sedan delivery, which served faithfully for many years, was exchanged for a new Ford sedan delivery. This is one of the new cars with glass windows cut in the sides, which will make it much safer to operate than the old solid bodies.

Superintendent of Refuges

May 3, 1954

3-1750
Form NR-1
(Rev. March 1953)

WATERFOWL

REFUGE BATCHTOWN MONTHS OF January TO April, 19 56

(1) Species	(2) Weeks of reporting period: 1	2	3	4	5	6	7	8	9	10
Swans:										
Whistling										
Trumpeter										
Geese:										
Canada										
Cackling										
Brant										
White-fronted										
Snow										
Blue										
Other										
Ducks:										
Mallard	150,000	180,700	175,000	200,000	150,000	100,000	40,000	10,000	35,000	10,000
Black	100		200	200	200	200	200	200	200	200
Gadwall						200				
Baldpate							100	100	2,000	2,000
Pintail	500				300		5,000	500	5,000	5,000
Green-winged teal										
Blue-winged teal										
Cinnamon teal										
Shoveler										
Wood										
Redhead	100									
Ring-necked	1,000	2,500	2,000	2,000	2,000	2,000	1,000	300	200	500
Canvasback		50	100	200	200	200	300	200	100	100
Scaup	500			200	300	500	1,000	500	500	3,000
Goldeneye	100	100		100	200	200	200	200	200	
Bufflehead										
Ruddy								400	500	500
Other Merganser	100	100	200	300	300	400	400	200	100	100
Coot:										

Int. Dup. Sec.,
Wash., D. C.

3-7150a
Cont. NR-1
(Rev. March 1953)

WATERFOWL
(Continuation Sheet)

REFUGE BATCHTOWN MONTHS OF January TO April, 19 54

(1) Species	(2) Weeks of reporting period: 11	12	13	14	15	16	17	18	(3) Estimated waterfowl days use	(4) Production: Broods seen	Estimated total
Swans:											
Whistling											
Trumpeter											
Geese:											
Canada											
Cackling											
Brant											
White-fronted											
Snow			800						1,400		
Blue			200						1,400		
Other											
Ducks:											
Mallard	15,000	15,000	8,000	2,000	250	150	100		7,428,400		
Black	300	400	800	200	80	50	25		22,975		
Gadwall		100	100	100	100				4,900		
Baldpate	3,000	4,000	1,000	800	800	200	00		90,600		
Pintail	10,000	10,000	500						156,200		
Green-winged teal											
Blue-winged teal	800	2,000	5,000	5,000	4,000	2,000	80		156,800		
Cinnamon teal											
Shoveler		200	1,000	1,000	800	400	200		23,100		
Wood	200	400	1,000	800	300	300	300		21,000		
Redhead		150							1,750		
Ring-necked	1,000	1,000							108,850		
Canvasback	200	400	25						14,625		
Scaup	5,000	8,000	10,000	5,000	800	200	100		244,300		
Goldeneye	200	200							11,800		
Bufflehead	100								700		
Ruddy	800	2,000	2,000	1,000					48,300		
Other Mergansers	100	100	100						17,500		
Coot:	200	2,000	2,000	4,000	1,500	1,000	1,000		81,900		

(over)

	(5) Total Days Use	(6) Peak Number	(7) Total Production
Swans	None		
Geese	2,800	400	
Ducks	8,430,800	203,000	
Coots	81,900	4,000	

SUMMARY

Principal feeding areas

Principal nesting areas

Reported by Edw. A. Davis

INSTRUCTIONS (See Secs. 7531 through 7534, Wildlife Refuges Field Manual)

(1) Species: In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and national significance.

(2) Weeks of Reporting Period: Estimated average refuge populations.

(3) Estimated Waterfowl Days Use: Average weekly populations x number of days present for each species.

(4) Production: Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.

(5) Total Days Use: A summary of data recorded under (3).

(6) Peak Number: Maximum number of waterfowl present on refuge during any census of reporting period.

(7) Total Production: A summary of data recorded under (4).

Interior Duplicating Section, Washington, D. C. 37944
1953

NR-7
(Rev. March 1953)

WATERFOWL

REFUGE CALHOUN MONTHS OF January TO April, 19 54

(1) Species	(2) Weeks of reporting period: 1	2	3	4	5	6	7	8	9	10
Swans:										
Whistling										
Trumpeter										
Geese:										
Canada	300	800	500	500	300	300	500	1,000	1,000	4,000
Cackling										
Brant										
White-fronted										
Snow	1,000	600	500	300	300	700	700	700	700	1,800
Blue	1,200	900	700	400	400	500	500	500	500	1,000
Other										
Ducks:										
Mallard	200,000	20,100	100,000	75,000	50,000	20,000	25,000	10,000	8,000	5,000
Black	200		500	200	200	200	300	200	100	100
Gadwall										
Baldpate			100		100	100	200	100	3,000	2,000
Pintail	2,000	2,000	200		500	500	3,000	300	800	2,000
Green-winged teal										
Blue-winged teal										
Cinnamon teal										
Shoveler										
Wood										
Redhead	100	50			100	100	100			
Ring-necked	200		200	200	200			3,000	800	1,000
Canvasback	50	50	2,500	2,500	2,500	3,000	3,000	3,000	3,000	1,000
Scaup	300		100	100	200	400	1,000	1,000	400	10,000
Goldeneye	100	100	100	100	200	200	200	100	100	
Bufflehead										
Ruddy								2,000	2,000	1,000
Other Mergansers	200	200	200	200	200	400	300	100	100	100
Coot:										

Int. Dup. Sec.,
Wash., D. C.

3-7150a
Cont. NR-1
(Rev. March 1953)

WATERFOWL
(Continuation Sheet)

REFUGE CALHOUN MONTHS OF January TO April, 1958

(1) Species	(2) Weeks of reporting period 11	12	13	14	15	16	17	18	(3) Estimated waterfowl days use	(4) Production Broods seen	(4) Production Estimated total
Swans:											
Whistling											
Trumpeter											
Geese:											
Canada	700		80						71,750		
Cackling											
Brant											
White-fronted									58,800		
Snow	1,000	200	200						56,000		
Blue	1,000	200	200								
Other											
Ducks:											
Mallard	4,000	5,000	2,000	500	200	100	100		3,888,000		
Black	200	400	200	100	80	25	25		19,600		
Gadwall		200	200		100				5,600		
Baldpate	800	1,000	800		400	200	100		88,100		
Pintail	2,000	3,000	100						112,700		
Green-winged teal											
Blue-winged teal	800	1,000	6,000	6,000	4,000	2,500	1,000		147,000		
Cinnamon teal											
Shoveler		200	400	300	500	300	100		12,600		
Wood	100	200	300	300	300	300	200		11,900		
Redhead		100							3,360		
Ring-necked	1,000	1,000							81,100		
Canvasback	1,000	4,000	100						179,900		
Scaup	15,000	15,000	30,000	10,000	800	200	100		632,100		
Goldeneye	100	100							9,800		
Bufflehead											
Ruddy	1,000	5,000	5,000	5,000					147,000		
Other Mergansers	100	100	200						16,800		
Coot:	100		2,000	3,000	1,000	500	300		49,700		

(over)

	(5) Total Days Use	(6) Peak Number	(7) Total Production
Swans	None		
Geese	180,520	6,500	
Ducks	4,247,980	208,130	
Coots	49,700	3,000	

SUMMARY

Principal feeding areas

Principal nesting areas

Reported by Edw. A. Davis

INSTRUCTIONS (See Secs. 7531 through 7534, Wildlife Refuges Field Manual)

(1) Species: In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and national significance.

(2) Weeks of Reporting Period: Estimated average refuge populations.

(3) Estimated Waterfowl Days Use: Average weekly populations x number of days present for each species.

(4) Production: Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.

(5) Total Days Use: A summary of data recorded under (3).

(6) Peak Number: Maximum number of waterfowl present on refuge during any census of reporting period.

(7) Total Production: A summary of data recorded under (4).

Interior Duplicating Section, Washington, D. C. 37944
1953

3-1751
Form NR [illegible]
(Nov. 1945)

MIGRA[illegible]/ BIRDS
(other than waterfowl)

Refuge BATCHTOWN Months of January to April 194[illegible]

(1) Species	(2) First Seen		(3) Peak Numbers		(4) Last Seen		(5) Production			(6) Total
Common Name	Number	Date	Number	Date	Number	Date	Number Colonies	Total # Nests	Total Young	Estimated Number
I. Water and Marsh Birds:										
Great Blue Heron	8	1/8/54	75	4/20/54		Still present				150
American Egret	1	4/20/54	60			Still present				100
Pied-billed Grebe	15	3/15/54	100	4/9/54		Still present				200
II. Shorebirds, Gulls and Terns:										
Gulls	2,000	1/1/54	15,000	2/12/54		Still present				20,000
Terns	500	1/1/54	5,000	2/12/54		Still present				10,000

(over)

(1)	(2)	(3)	(4)	(5)	(6)
III. Doves and Pigeons:					
Mourning dove	None observed				
White-winged dove					
IV. Predaceous Birds:					
Golden eagle					
Duck hawk					
Horned owl					
Magpie					
Raven					
Crow	Crows are here all year around and plenty of them on the areas.				

Reported by Edward A. Davis

INSTRUCTIONS

(1) Species: Use the correct names as found in the A.O.U. Checklist, 1931 Edition, and list group in A.O.U. order. Avoid general terms as "seagull", "tern", etc. In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance. Groups: I. Water and Marsh Birds (Gaviiformes to Ciconiiformes and Gruiiformes)
II. Shorebirds, Gulls and Terns (Charadriiformes)
III. Doves and Pigeons (Columbiformes)
IV. Predaceous Birds (Falconiformes, Strigiformes and predaceous Passeriformes)

(2) First Seen: The first refuge record for the species for the season concerned.

(3) Peak Numbers: The greatest number of the species present in a limited interval of time.

(4) Last Seen: The last refuge record for the species during the season concerned.

(5) Production: Estimated number of young produced based on observations and actual counts.

(6) Total: Estimated total number of the species using the refuge during the period concerned.

3-1751
Form NR[illegible]
(Nov. 1945)

MIGRA[illegible] BIRDS
(other than waterfowl)

Refuge CALHOUN Months of January to April 194[illegible]

(1) Species	(2) First Seen		(3) Peak Numbers		(4) Last Seen		(5) Production			(6) Total
Common Name	Number	Date	Number	Date	Number	Date	Number Colonies	Total # Nests	Total Young	Estimated Number
I. Water and Marsh Birds:										
Great Blue Heron	5	1/2/54	125	4/20/54		still present				250
American Egret	2	4/20/54	50	4/27/54		still present				100
Pied-billed Grebe	15	3/15/54	100	4/9/54		still present				800
II. Shorebirds, Gulls and Terns:										
Gulls	3,000	1/2/54	15,000	2/12/54		still present				20,000
Terns	700	1/3/54	5,000	2/12/54		still present				10,000

(over)

(1)	(2)	(3)	(4)	(5)	(6)
III. Doves and Pigeons:					
Mourning dove	None observed				
White-winged dove					
IV. Predaceous Birds:					
Golden eagle					
Duck hawk					
Horned owl					
Magpie					
Raven					
Crow	Crows are here all year around, and plenty of them use the area.				

Reported by Edward A. Davis

INSTRUCTIONS

(1) Species: Use the correct names as found in the A.O.U. Checklist, 1931 Edition, and list group in A.O.U. order. Avoid general terms as "seagull", "tern", etc. In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance. Groups: I. Water and Marsh Birds (Gaviiformes to Ciconiiformes and Gruiiformes)
II. Shorebirds, Gulls and Terns (Charadriiformes)
III. Doves and Pigeons (Columbiformes)
IV. Predaceous Birds (Falconiformes, Strigiformes and predaceous Passeriformes)

(2) First Seen: The first refuge record for the species for the season concerned.

(3) Peak Numbers: The greatest number of the species present in a limited interval of time.

(4) Last Seen: The last refuge record for the species during the season concerned.

(5) Production: Estimated number of young produced based on observations and actual counts.

(6) Total: Estimated total number of the species using the refuge during the period concerned.

3-1752
Form NR-2
(April 1946)

UPLAND GAME BIRDS

1613

Refuge CALHOUN and BATCHTOWN Months of January to April, 1954

UPLAND GAME BIRDS

(1) Species	(2) Density		(3) Young Produced		(4) Sex Ratio	(5) Removals			(6) Total	(7) Remarks
Common Name	Cover types, total acreage of habitat	Acres per Bird	Number broods obs'v'd.	Estimated Total	Percentage	Hunting	For Re-stocking	For Research	Estimated number using Refuge	Pertinent information not specifically requested. List introductions here.
Nothing to report under this										

INSTRUCTIONS

Form NR-2 - UPLAND GAME BIRDS.*

(1) SPECIES: Use correct common name.

(2) DENSITY: Applies particularly to those species considered in removal programs (public hunts, etc.). Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottomland hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.

(3) YOUNG PRODUCED: Estimated number of young produced, based upon observations and actual counts in representative breeding habitat.

(4) SEX RATIO: This column applies primarily to wild turkey, pheasants, etc. Include data on other species if available.

(5) REMOVALS: Indicate total number in each category removed during the report period.

(6) TOTAL: Estimated total number using the refuge during the report period. This may include resident birds plus those migrating into the refuge during certain seasons.

(7) REMARKS: Indicate method used to determine population and area covered in survey. Also include other pertinent information not specifically requested.

* Only columns applicable to the period covered should be used.

3-1754
Form [illegible]4
(June 1945)

SMALL MAMMALS

Refuge CALHOUN and DATCHTOWN Year ending April 30, 1954

SMALL MAMMALS

(1) Species	(2) Density		(3) Removals					(4) Disposition of Furs						(5) Total Population
								Share Trapping						
Common Name	Cover Types & Total Acreage of Habitat	Acres Per Animal	Hunting	Fur Harvest	Predator Control *	For Re-stocking	For Re-search	Permit Number	Trappers Share	Refuge share	Total Refuge Furs Shipped	Furs Donated	Furs Destroyed	
Nothing to report under this.														

* List removals by Predator Animal Hunter

REMARKS:

Reported by _____

INSTRUCTIONS

Form NR-4 - SMALL MAMMALS (Include data on all species of importance in the management program; i. e., muskrats, beaver, coon, mink, coyote. Data on small rodents may be omitted except for estimated total population of each species considered in control operations.)

(1) SPECIES: Use correct common name. Example: Striped skunk, spotted skunk, short-tailed weasel, gray squirrel, fox squirrel, white-tailed jackrabbit, etc. (Accepted common names in current use are found in the "Field Book of North American Mammals" by H. E. Anthony and the "Manual of the Vertebrate Animals of the Northeastern United States" by David Starr Jordan.)

(2) DENSITY: Applies particularly to those species considered in removal programs. Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottom land hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.

(3) REMOVALS: Indicate the total number under each category removed since April 30 of the previous year, including any taken on the refuge by Service Predatory Animal Hunter. Also show any removals not falling under headingslisted.

(4) DISPOSITION OF FUR: On share-trapped furs list the permit number, trapper's share, and refuge share. Indicate the number of pelts shipped to market, including furs taken by Service personnel. Total number of pelts of each species destroyed because of unprimeness or damaged condition, and furs donated to institutions or other agencies should be shown in the column provided.

(5) TOTAL POPULATION: Estimated total population of each species reported on as of April 30.

REMARKS: Indicate inventory method(s) used, size of sample area(s), introductions, and any other pertinent information not specifically requested.

116007

1954

CALHOUN AND BATCHTOWN REFUGES
NARRATIVE REPORT
MAY, JUNE, JULY, AUGUST, 1954

MAY - AUG 1954

I. GENERAL

A. Weather Conditions:

This was a very hot summer, especially during the month of July, when the temperature reached an all-time high of 114°. May and June were warmer last year, and the August reading was one degree higher than last year. The minimum temperature was lower in every month this year compared with last year.

Relative readings are shown below:

Month	Year	Maximum	Minimum	Precipitation
May	1953	96	44	1.78
	1954	85	35	2.01
June	1953	105	58	2.29
	1954	104½	49	2.01
July	1953	102	64	.78
	1954	114	60	1.45
August	1953	101	62	.50
	1954	102	61	3.16
			Total 1953	5.35
			Total 1954	8.63

B. Water Conditions:

In Pool 25 a draw-down occurred throughout May and June. In July, for a period of about 10 days, water here was held higher than normal. This period of high water damaged the smartweed beds. Following this, the pool was dropped below normal again. However, the last three weeks in August had essentially normal pool levels. The pool was dropped sharply again on August 30.

In Pool 26 water levels were generally more favorable. After the spring flood had subsided, no other periods of high water were recorded. Fluctuations due to manipulation of the dam were not bad in Pool 26, and no draw-downs occurred during the period.

A comparison of pool levels in Pool 26, compared to the same period in 1953, is shown in the following table:

Month	Year	High	Low	Difference
May	1953	16.2	15.3	.9
	1954	15.2	14.6	.6
June	1953	16.1	15.0	1.1
	1954	16.0	15.4	.6
July	1953	16.1	15.4	.7
	1954	15.7	15.1	.6
August	1953	15.9	15.3	.6
	1954	15.7	15.1	.6

II. WILDLIFE

A. Migratory Birds:

1. Populations and Behavior:

(a) Waterfowl:

On the Batchtown Refuge there were 425 ducks left when the period opened. The following week the number had increased to 806, and then the numbers dropped off to the estimated 100 wood ducks which summered in the area.

The last two weeks of the report period a slight increase in numbers was noted. The third week in August showed 350 ducks present, including the first blue-wings of the fall; while the last week of the period had 650 ducks, including the first baldpates (100) and green-winged teal (50) of the fall movement.

An estimated 24,402 duck days use was made of Batchtown Refuge during the period.

The period opened at Calhoun Refuge with 350 ducks present. This number also increased the second week, when 402 birds were seen. By the end of May all except a small residue of resident summer wood ducks had moved out, and about 150 wood ducks summered on the refuge.

The second week in August 30 mallards and 150 blue-winged teal made an appearance. The following week there were 250 mallards, 150 blue-wings, and 250 wood ducks on the refuge. As the period ended the first baldpates (50) and green-winged teal (25) had arrived, and there were also 250 mallards, 300 blue-wings, and 400 wood ducks on the area.

An estimated 31,024 duck days use was made of Calhoun this period.

Production was down on both areas this year. No broods of any kind were found on Batchtown Refuge, while Calhoun Refuge

had only eight broods of wood ducks present. Last year 54 broods of wood ducks, eight broods of mallards, one brood of blacks, and one brood of scaup were found on the combined areas.

A comparison of broods for the 1953 and 1954 seasons is shown in the following table:

Species	Broods	Young	Year
Wood duck	54	532	1953
	8	64	1954
Mallard	8	64	1953
	0	0	1954
Black	1	8	1953
	0	0	1954
Scaup	1	8	1953
	0	0	1954
TOTALS	64	612	1953
	8	64	1954

Coot were present on both refuges throughout May, but none were seen after that. Coot made 5,250 days use of Batchtown and 5,950 days use of Calhoun during May. This was also the total use for the period.

(d) Egrets:

Egrets showed an increase in the Batchtown area, with an estimated 2,300 using the area, compared with 1,200 last year. Calhoun had an estimated 3,000 birds using the area, compared with 2,000 last year.

(e) Shorebirds and Other Water Birds:

Shorebirds have not been observed in any numbers as yet.

Blue heron showed an increase in this area, with 760 using the Calhoun area, compared with 300 last year. Batchtown had an estimated 650 using the area, compared with 400 last year.

(f) Mourning Doves:

There are not many of this species on either refuge, but the adjacent areas are full of them. Large numbers have been observed in both counties.

2. Food and Cover:

Food and cover conditions on the Calhoun Refuge are better than last year. This year water levels were much more

favorable for the production of sago pondweed and other aquatics common to the area. Emergents such as the cutgrasses, wild millet, and smartweed have made good growth and are now seeding heavily. Lotus and water lily have increased to such an extent in Fuller and Stump Lakes that both areas are almost completely closed. The new sharecropping program will provide about 3,000 bushels of corn this year. The location of some of the units near the refuge boundary will force us to hold our share until the close of the hunting season. We do not foresee much difficulty in getting the corn on this area utilized.

Food and cover conditions on the Batchtown area are completely changed from that of last year. The extremely heavy stands of smartweed which covered the area last year are not to be found this year, but we have noted some increase in wild millet on the area. We are getting some encroachment from willows on this area, and conditions may become worse if low water levels prevail too often. In general, the amount of aquatic food on this area has decreased. Thanks to the new sharecropping program, the Batchtown Refuge will have its food supply boosted by about 1,000 bushels of corn. We may have some difficulty in getting this corn utilized for some of our fields are located so the birds will not use them. This problem will receive close attention during the next period and will be reported on in the next narrative.

B. Upland Game Birds:

During this period there have been about 40 pairs of quail observed on the margin areas of the Calhoun Refuge and three coveys of young birds. Some of the local "experts" have theorized that the extreme dry weather drove these birds close to water.

The Batchtown closed area has 40 pairs of quail that were observed during this period, but no young birds have been observed in this area as yet.

There is plenty of upland game food and cover along the margin areas of the Calhoun Refuge during periods of normal water levels.

The Batchtown Refuge has enough high ground to take care of plenty of quail during normal pool stages. There is plenty of weed seed and some cultivated crops in this area for upland game birds. Cover conditions on both areas are good.

C. Big Game Animals:

In the Calhoun Refuge we have an estimated 10 deer using the area, together with adjacent farm lands.

In the Batchtown areas there have been six deer using the refuge, and young deer have been observed.

Deer are evidently increasing in both areas.

D. Fur Animals:

(a) Muskrat:

Muskrat sign is a little more numerous in the Calhoun Refuge than last year. The low water stage has probably helped this species some.

The Batchtown area does not show any increase over last year. The draw-down of this pool in the spring is undoubtedly bad for muskrats in this area.

(b) Mink:

Mink sign observed shows an increase over last year. Most rivermen have said that they see more sign than last year and think this species is increasing in the bottomlands.

(c) Beaver:

Beaver sign is plentiful on most of the islands of the Mississippi and Illinois Rivers. There is probably a slight increase in both areas.

(f) Raccoon:

Raccoon sign is plentiful throughout the bottoms on both rivers. All indications are that this species is still on the increase. Commercial fishermen report that they see lots of them at night feeding along river banks.

(g) Fox:

Foxes are increasing in both areas. Several have been observed during the daytime. Farmers complain that foxes are increasing and do some damage to poultry.

E. Predaceous Birds:

Red-tailed hawks are numerous in both areas, and the species is holding about the same. No increase is noted over last year.

Owls are plentiful throughout the timbered areas on the Calhoun and Batchtown Refuges. The population seems to have increased slightly.

Only a few eagles were observed during the first part of May, and these soon parted to the north. They showed an increase this spring over last year.

F. Fish:

Fish are plentiful in both areas, and reports from commercial fishermen indicate that we have more rough and game fish than ever before. It is thought that keeping the dams open in the spring puts more fish in the area. Lots of fish were observed spawning this spring.

III. REFUGE DEVELOPMENT AND MAINTENANCE

A. Physical Development:

All exterior boundaries of the Calhoun and Batchtown Refuges were checked and rebrushed where needed this period. About six miles of boundary needed extensive rebrushing and posting work. Sign damage resulting from high water was not serious this period.

Sharecropping permittees cleared approximately 40 acres of willow brush and planted to corn. We expect this clearing program to expand in the future.

B. Plantings:

1. Cultivated Crops:

This was the inaugural year for sharecropping on the Calhoun and Batchtown Refuges, so we are still experiencing a few growing pains. When the local S. C. S. farm planner was approached concerning farm plans for these areas he advised refuge personnel to not worry about such matters as crop rotation, fertilization, and other land improvement practices. He explained that the lands in question are of such a high risk type that we should only concern ourselves with getting a crop in. This was probably good advice from the farm planner's viewpoint, but we still think we have possibilities for improving yields and farming practices.

It is thought that the present sharecropping program can be expanded by renovating some old fields and breaking up some pasture units. At present all expansion will be carried out by the permittees on an increased share basis for we do not have the equipment, personnel, or money to complete such a program.

This year a total of 14 sharecropping permits were issued and 13 of these were fortunate enough to get in a crop of corn. This seems to be one of the years when the "high risk" bottomlands will pay off in this area for we have about 370 acres of good-looking corn, while about 80% of the corn in the county was lost due to drought. A large majority of this loss was on upland fields.

Batchtown Refuge

Au-25-1: Wm. J. Obst has 17 acres of corn that looks good, and dry hot weather did not hurt this field appreciably.

Au-25-2: Chas. Baker has four acres that look good. Hot weather did not hurt this field as far as the human eye can tell.

Au-25-3: Martin Eilerman's corn looks good, and suffered little damage from hot weather.

Au-25-4: Wilson Mortland got in about 40 acres of corn. This land had to be all cleared as it was all covered with brush, small cottonwood, honeysuckle, and small elm. It has been 12 years since this ground was plowed. Mr. Wilson did a lot of work to get this field back into cultivation. He plowed the ground deep, double disked the ground three times, and harrowed it two times, which made a good seed bed. He cultivated his corn three times, and has good prospects for a crop. He thinks he can get 50 more acres ready for next year in the adjacent area. This man has done us a good job.

Au-25-5: This tract, held by Wilson Mortland, got flooded out and had to be planted over. The second seeding is not doing too well.

Au-25-6: John Titus was a little late getting his corn in as high water held him up. Two of his fields are not very good. He has one good field. This is probably the poorest corn we have.

Calhoun Refuge

Au-26-1: Henry Hillen got his fields all planted, and most of it looks good. However, some of the fields were damaged by the hot weather.

Au-26-2: Henry Hillen has this unit. It is the area where the hot weather got some of the corn.

Au-26-3: John Brenkman did a good job, and his corn looks very good. He should have a good yield.

Au-26-4: John W. Klass did a good job. He cleared about two acres along one side of the field and has good prospects for a crop.

Au-26-5: John W. Klass also had this unit. The field was hurt some by the hot weather, but there will be a lot of corn here.

Au-26-6: Henry Bonner got about two acres of new land cleared, but water got too high and he failed to get a crop. The rest of his corn on old land looks good, although some of it got burned by the hot weather.

Au-26-7: H. W. Bimslager cleared about one acre. His corn looks good, although some of it suffered damage from hot weather.

Au-26-8: Everett Kronable got his corn in, and it looks very good. He did some clearing along the edge of the field.

Au-26-9: Henry Schulte failed to get this tract in as the ground got too dry. This ground is not very good in dry weather as it is sandy soil.

Au-26-10: Schulse Brothers have 20 acres in. This corn looks very good.

Au-26-11: Sidney Bradley has done a wonderful job for us. He cleared 40 acres of ground, pulling out cottonwood, willow, and elm trees with his tractor. He has all International equipment, one super M tractor and one H tractor. He plowed all this ground seven inches deep, double-cut ground three times with a big disk and harrowed it twice. He cultivated the corn four times and two fields five times. The work Mr. Bradley did on this ground is the reason for such a good corn prospect. He has the best prospect for corn in Calhoun County. All of his

corn is good, and the hot weather did not hurt it. There are possibly an additional 30 acres that Mr. Bradley can clear for us next year. Considerable time was spent with this farmer during the planting season, and he carried out every request. He will be a big help to us in governing trespassing on this side of Calhoun Refuge. Mr. Bradley has cut weeds along field roads and around fields. He has opened the eyes of farmers in handling this bottomland, and should be complimented for such a good job.

Au-26-12: W. F. Duncan's field looks good, and we can expect good returns here. Mr. Duncan used one ton of commercial fertilizer on this field, and it shows results.

Au-26-13: W. F. Duncan also had this unit. He got this field in, and it looks pretty good, but the squirrels have worked on it along the timber area. He also used fertilizer on this field.

Au-26-14: Duff Fry's field looks good. Some damage by hot winds occurred, but there will be lots of corn here.

IV. ECONOMIC USE

A. Grazing:

There have been two grazing units recommended for the Batchtown Refuge as follows:

Gu-25-1: Government-owned land consisting of approximately the west half of War Department Tract C-232, lying in SW¼SE¼, Sec. 33, T 11 S, R 2 W, Calhoun County, Illinois. Acreage: 42 acres.

Gu-25-2: Government-owned land consisting of a portion of War Department Tract C-225, lying in NE¼, Sec. 6, T 12 S, Calhoun County, Illinois. Acreage: 25 acres.

VI. PUBLIC RELATIONS

A. Recreational Use:

Recreational use on the Batchtown Refuge totaled over 25,000 days. This includes 15,100 days of fishing and 9,940 days of miscellaneous use such as boating, picnicking, swimming, etc.

Calhoun Refuge had a total of 55,000 days recreational use, including 25,450 days of fishing and 29,550 days miscellaneous use.

This recreational use was a little higher than last year and was occasioned by the large numbers of people who flocked to the river for relief from the extreme heat. Large numbers of swimmers were observed throughout the period on sand bars of the Mississippi River.

Pleasure boating on both the Illinois and Mississippi Rivers showed an increase this year, with more boats using the river oftener than a year ago.

B. Refuge Visitors:

On May 23 and 24 Superintendent Steele visited the area.

On June 15 George Winslow brought down a load of posting equipment and patrolled the refuges the next day.

On July 20 Mr. Carter visited the refuge, and in company with Mr. Rettinger and the Refuge Manager checked all share-cropping areas in the district.

C. Refuge Participation:

On May 23 refuge personnel attended a meeting of the Illinois Duck and Goose Hunters Association and officials of the Illinois Conservation Department. The meeting was called at the request of the above-mentioned organization to hear the various pros and cons regarding the management of public shooting along the Mississippi River. The Service has turned over the lands in question to the State of Illinois for management and now the hunters all have a different opinion on how the lands should be administered. State officials feel that there is a need for "advance permit" areas, which would charge a fee for facilities such as boats, decoys, and blinds. Hunters living near the "permit" area feel they are being discriminated against and would prefer to claim "squatters rights" to shooting spots. There was much talk and many flaring tempers, but the meeting was concluded with no apparent accomplishment whatsoever.

We have a recent report which indicates that a compromise has been reached, in which the State will designate blind locations only, and administer the area on a first-come-first-served basis.

As per the signed cooperative agreement between the State and the Service, our only interest is to see that terms of the agreement are met; mainly, equal rights for all.

E. Fishing:

Sport:

Sport fishing was good during May and part of June, but the weather was too hot through July and part of August. There was probably no change in fishing success over last year. Bluegill provided the best fishing during the period for crappie did not bite during the hot weather. The sport fishermen are looking forward to good crappie fishing when the weather gets cooler.

Commercial:

Commercial fishing was better during this period than last year. Most of the commercial fishermen bring in good catches of catfish. They keep the market flooded with carp and buffalo most of the time. The price of fish has come down in this area compared with last year.

VII. OTHER ITEMS

A. Items of Interest:

The Refuge Manager attended a conference of all Upper Mississippi Refuge personnel from July 28-30.

Consummation of the long awaited General Plan and Cooperative Agreement between the Service and the Corps of Engineers resulted in the withholding of the Gilead Club and most of the land in the Blackwell Area from the lands turned over. Consequently, it was necessary to revise the Batchtown Closed Area to eliminate these lands which have previously been closed. This reduces the size of the Batchtown Refuge considerably, although it is still believed sufficiently large to be of major importance.

Ray C. Steele, Superintendent.

September 7, 1954

Approved:

Regional Director

Date 9/15/54

3-1750
Form NR-7
(Rev. May 1953)

WATERFOWL

REFUGE Batchtown

MONTHS OF May TO August, 19 54

(1) Species	(2) Weeks of reporting period: 1	2	3	4	5	6	7	8	9	10
Swans:										
Whistling										
Trumpeter										
Geese:										
Canada										
Cackling										
Brant										
White-fronted										
Snow										
Blue										
Other										
Ducks:										
Mallard	25	6								
Black										
Gadwall										
Baldpate										
Pintail										
Green-winged teal	300	700								
Blue-winged teal										
Cinnamon teal										
Shoveler	100	100	100	100	100	100	100	100	100	100
Wood										
Redhead										
Ring-necked										
Canvasback										
Scaup										
Goldeneye										
Bufflehead										
Ruddy										
Other										
TOTAL DUCKS	425	806	100	100	100	100	100	100	100	100
Coot:	100	400	150	100						

Int. Dup. Sec.,
Wash., D. C. 37966

-3-7150a
Cont. NP-1
(Rev. March 1953)

WATERFOWL
(Continuation Sheet)

REFUGE Batchtown MONTHS OF May TO August, 19 54

(1) Species	(2) Weeks of reporting period 11	12	13	14	15	16	17	18	(3) Estimated waterfowl days use	(4) Production Broods seen	Estimated total
Swans:											
Whistling											
Trumpeter											
Geese:											
Canada											
Cackling											
Brant											
White-fronted											
Snow											
Blue											
Other											
Ducks:					20	100	180		2,107		
Mallard											
Black											
Gadwall							100		700		
Baldpate											
Pintail							80		330		
Green-winged teal					25	100	180		2,925		
Blue-winged teal											
Cinnamon teal											
Shoveler											
Wood	100	100	100	100	10	180	300		12,390		
Redhead											
Ring-necked											
Canvasback											
Scaup											
Goldeneye											
Bufflehead											
Ruddy											
Other											
TOTAL DUCKS	100	100	100	100	55	380	680		24,402		
Coot:									6,280		

(over)

	(5) Total Days Use	(6) Peak Number	(7) Total Production
Swans			
Geese			
Ducks	24,402	906	
Coots	8,250	400	

SUMMARY

Principal feeding areas Batchtown Refuge

Principal nesting areas Gilead Club, Blackwell Area, Batchtown Refuge

Reported by Edward A. Davis

INSTRUCTIONS (See Secs. 7531 through 7534, Wildlife Refuges Field Manual)

(1) Species: In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and national significance.

(2) Weeks of Reporting Period: Estimated average refuge populations.

(3) Estimated Waterfowl Days Use: Average weekly populations x number of days present for each species.

(4) Production: Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.

(5) Total Days Use: A summary of data recorded under (3).

(6) Peak Number: Maximum number of waterfowl present on refuge during any census of reporting period.

(7) Total Production: A summary of data recorded under (4).

Interior Duplicating Section, Washington, D. C. 37944
1953

5-756
Form NR-1
(Rev. March 1953)

WATERFOWL

REFUGE Calhoun MONTHS OF May TO August, 1954

(1) Species	(2) Weeks of reporting period: 1	2	3	4	5	6	7	8	9	10
Swans:										
Whistling										
Trumpeter										
Geese:										
Canada										
Cackling										
Brant										
White-fronted										
Snow										
Blue										
Other										
Ducks:										
Mallard										
Black										
Gadwall										
Baldpate										
Pintail										
Green-winged teal										
Blue-winged teal	250	300		15						
Cinnamon teal										
Shoveler										
Wood	100	100	100	150	150	150	150	150	150	150
Redhead										
Ring-necked										
Canvasback										
Scaup		2	25							
Goldeneye										
Bufflehead										
Ruddy										
Other										
TOTAL DUCKS	350	402	125	165	150	150	150	150	150	150
Coot:	100	500	200	50						

Int. Dup. Sec.,
Wash., D. C. 37944

3-7150a
Cont. NR-1
(Rev. March 1953)

WATERFOWL
(Continuation Sheet)

REFUGE Calhoun MONTHS OF May TO August, 19 56

(1) Species	(2) Weeks of reporting period 11	12	13	14	15	16	17	18	(3) Estimated waterfowl days use	(4) Production Broods seen	(4) Production Estimated total
Swans:											
Whistling											
Trumpeter											
Geese:											
Canada											
Cackling											
Brant											
White-fronted											
Snow											
Blue											
Other											
Ducks:											
Mallard					30	250	250		3,710		
Black											
Gadwall											
Baldpate							80		880		
Pintail											
Green-winged teal							25		175		
Blue-winged teal					150	150	300		5,155		
Cinnamon teal											
Shoveler											
Wood	150	150	150	150	35	250	400		16,445	8	125
Redhead											
Ring-necked											
Canvasback											
Scaup											
Goldeneye											
Bufflehead											
Ruddy											
Other											
TOTAL DUCKS	150	150	150	150	215	650	1,055		31,024		
Coot:									5,950		

(over)

	(5) Total Days Use	(6) Peak Number	(7) Total Production
Swans			
Geese			
Ducks	31,064	1,025	125
Coots	5,960	500	

SUMMARY

Principal feeding areas Calhoun Refuge, Calhoun Point, Stump Lake.

Principal nesting areas Calhoun Point, Johnson Island, Swan Lake and Gilbert Lake

Reported by Edward A. Davis

INSTRUCTIONS (See Secs. 7531 through 7534, Wildlife Refuges Field Manual)

(1) Species: In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and national significance.

(2) Weeks of Reporting Period: Estimated average refuge populations.

(3) Estimated Waterfowl Days Use: Average weekly populations x number of days present for each species.

(4) Production: Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.

(5) Total Days Use: A summary of data recorded under (3).

(6) Peak Number: Maximum number of waterfowl present on refuge during any census of reporting period.

(7) Total Production: A summary of data recorded under (4).

Interior Duplicating Section, Washington, D. C. 37944
1953

3-1751
Form NR
(Nov. 1945)

MIGRAT( ) BIRDS
(other than waterfowl)

Refuge.....Batchtown..... Months of.....May.....to.....August.....19/54

(1) Species	(2) First Seen		(3) Peak Numbers		(4) Last Seen		(5) Production			(6) Total
Common Name	Number	Date	Number	Date	Number	Date	Number Colonies	Total # Nests	Total Young	Estimated Number
I. Water and Marsh Birds:										
Egrets	100	5/3	1,200	8/13	300	8/27	1		300	2,300
Herons	30	5/3	300	8/13	50	8/27	1		150	650
II. Shorebirds, Gulls and Terns:										
Gulls	600	5/3	600	5/3	50	5/25				1,000
Terns	400	5/3	400	5/3	25	5/25				600

(over)

(1)	(2)	(3)	(4)	(5)	(6)
III. Doves and Pigeons:					
Mourning dove					
White-winged dove					
IV. Predaceous Birds:					
Golden eagle					
Duck hawk					
Horned owl					
Magpie					
Raven					
Crow	Lots of crows here the year around.				

Reported by Edward A. Davis

INSTRUCTIONS

(1) Species: Use the correct names as found in the A.O.U. Checklist, 1931 Edition, and list group in A.O.U. order. Avoid general terms as "seagull", "tern", etc. In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance. Groups: I. Water and Marsh Birds (Gaviiformes to Ciconiiformes and Gruiiformes)
II. Shorebirds, Gulls and Terns (Charadriiformes)
III. Doves and Pigeons (Columbiformes)
IV. Predaceous Birds (Falconiformes, Strigiformes and predaceous Passeriformes)

(2) First Seen: The first refuge record for the species for the season concerned.

(3) Peak Numbers: The greatest number of the species present in a limited interval of time.

(4) Last Seen: The last refuge record for the species during the season concerned.

(5) Production: Estimated number of young produced based on observations and actual counts.

(6) Total: Estimated total number of the species using the refuge during the period concerned.

3-1751
Form NR- ?
(Nov. 1945)

MIGRAT[illegible] BIRDS
(other than waterfowl)

Refuge Calhoun Months of May to August 19[illegible]54

(1) Species	(2) First Seen		(3) Peak Numbers		(4) Last Seen		(5) Production			(6) Total
Common Name	Number	Date	Number	Date	Number	Date	Number Colonies	Total # Nests	Total Young	Estimated Number
I. Water and Marsh Birds:										
Egrets	200	5/3/54	2,000	8/13	2,000	8/27	1		400	3,000
Heron	100	5/3/54	400	8/13	100	8/27	1		150	700
II. Shorebirds, Gulls and Terns:	Shorebirds are scarce as yet.									
Gulls	1,500	5/3	1,500	5/3	100	5/25				2,000
Terns	1,000	5/3	1,000	5/3	100	5/25				1,500

(over)

(1)	(2)	(3)	(4)	(5)	(6)
III. Doves and Pigeons:					
Mourning dove					
White-winged dove					
IV. Predaceous Birds:					
Golden eagle					
Duck hawk					
Horned owl					
Magpie					
Raven					
Crow	Lots of crows here the year around.				

Reported by Edward A. Davis

INSTRUCTIONS

(1) Species: Use the correct names as found in the A.O.U. Checklist, 1931 Edition, and list group in A.O.U. order. Avoid general terms as "seagull", "tern", etc. In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance. Groups: I. Water and Marsh Birds (Gaviiformes to Ciconiiformes and Gruiiformes)
II. Shorebirds, Gulls and Terns (Charadriiformes)
III. Doves and Pigeons (Columbiformes)
IV. Predaceous Birds (Falconiformes, Strigiformes and predaceous Passeriformes)

(2) First Seen: The first refuge record for the species for the season concerned.

(3) Peak Numbers: The greatest number of the species present in a limited interval of time.

(4) Last Seen: The last refuge record for the species during the season concerned.

(5) Production: Estimated number of young produced based on observations and actual counts.

(6) Total: Estimated total number of the species using the refuge during the period concerned.

3-1752
Form NR-2
(Ap... 1946)

UPLAND GAME BIRDS

1613

Refuge **Batchtown** Months of **May** to **August,** 19**45**

UPLAND GAME BIRDS

(1) Species	(2) Density		(3) Young Produced		(4) Sex Ratio	(5) Removals			(6) Total	(7) Remarks
Common Name	Cover types, total acreage of habitat	Acres per Bird	Number broods obs'v'd.	Estimated Total	Percentage	Hunting	For Re-stocking	For Research	Estimated number using Refuge	Pertinent information not specifically requested. List introductions here.
Quail	**Timber, scrub brush, weed patches, smartweed, pasture areas. 400 acres**	**10**		**100**	**50%**				**140**	**Observed 40 pairs of old birds during the period; no young birds observed.**

INSTRUCTIO

Form NR-2 - UPLAND GAME BIRDS.*

(1) SPECIES: Use correct common name.

(2) DENSITY: Applies particularly to those species considered in removal programs (public hunts, etc.). Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottomland hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.

(3) YOUNG PRODUCED: Estimated number of young produced, based upon observations and actual counts in representative breeding habitat.

(4) SEX RATIO: This column applies primarily to wild turkey, pheasants, etc. Include data on other species if available.

(5) REMOVALS: Indicate total number in each category removed during the report period.

(6) TOTAL: Estimated total number using the refuge during the report period. This may include resident birds plus those migrating into the refuge during certain seasons.

(7) REMARKS: Indicate method used to determine population and area covered in survey. Also include other pertinent information not specifically requested.

* Only columns applicable to the period covered should be used.

3-1752
Form NR-2
(Ap... 1946)

UPLAND GAME BIRDS

1613

Refuge Colborn Months of May to August, 1954

UPLAND GAME BIRDS

(1) Species	(2) Density		(3) Young Produced		(4) Sex Ratio	(5) Removals			(6) Total	(7) Remarks
Common Name	Cover types, total acreage of habitat	Acres per Bird	Number broods obs'v'd.	Estimated Total	Percentage	Hunting	For Re-stocking	For Research	Estimated number using Refuge	Pertinent information not specifically requested. List introductions here.
Quail	Timber, brush, smartweed, cornfields, weed patches. 500 acres.	12	3	100	50%				140	Observed 40 pairs of quail during the period; 3 broods seen.

INSTRUCTIO

Form NR-2 - UPLAND GAME BIRDS.*

(1) SPECIES: Use correct common name.

(2) DENSITY: Applies particularly to those species considered in removal programs (public hunts, etc.). Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottomland hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.

(3) YOUNG PRODUCED: Estimated number of young produced, based upon observations and actual counts in representative breeding habitat.

(4) SEX RATIO: This column applies primarily to wild turkey, pheasants, etc. Include data on other species if available.

(5) REMOVALS: Indicate total number in each category removed during the report period.

(6) TOTAL: Estimated total number using the refuge during the report period. This may include resident birds plus those migrating into the refuge during certain seasons.

(7) REMARKS: Indicate method used to determine population and area covered in survey. Also include other pertinent information not specifically requested.

* Only columns applicable to the period covered should be used.

1954

CALHOUN AND BATCHTOWN REFUGES
NARRATIVE REPORT
SEPTEMBER, OCTOBER, NOVEMBER, DECEMBER, 1954

SEP - DEC 1954

I. GENERAL

A. Weather Conditions:

The maximum temperature recorded in September was 104°, the same as the high for the month in 1953. October and November highs were slightly lower than a year ago, while December experienced a slightly higher maximum.

Minimum readings in September and October were below those for 1953, but November had a slightly higher minimum and December had a low reading of 16° above the low in 1953.

Generally, the fall period was rather warm and balmy, and contributed to wide use of the areas for recreational purposes. Few days of what is generally considered good duck weather obtained during the season, which was characterized by bluebird weather most of the time.

Precipitation was higher in all months of the period, which was welcome to dwellers in the vicinity, who have experienced acute water shortages in the past year. Total rainfall recorded amounted to 7.92 inches, compared to only 3.55 inches in the fall of 1953.

Relative readings for the four months of the period are shown in the following table:

Month	Year	Maximum	Minimum	Precipitation
September	1953	104	43	.70
	1954	104	42	2.21
October	1953	95	36	1.59
	1954	92	30	2.29
November	1953	76	19	.74
	1954	74	23	1.44
December	1953	62	5	.52
	1954	64	21	1.98
			1953 TOTAL	3.55
			1954 TOTAL	7.92

B. Water Conditions:

River stages in Pool 26 were more favorable this year than for the same period a year ago. Maximum levels were higher in all months of the period, while minimum stages in September and October were higher than in 1953 and the minimums for November and December were identical. This more favorable river stage contributed to better hunting conditions than prevailed last year and also contributed to better fishing and wider recreational use.

In Pool 25 a draw-down occurred the first 10 days of the hunting season, contributing to low hunting pressure and reduced kill there. By November 8, however, the pool was almost back to normal, and from then on hunting increased and held high throughout the season.

A comparison of pool levels in Pool 26, compared to the same period in 1953, is shown in the following table:

Month	Year	High	Low	Difference
September	1953	15.3	14.7	.6
	1954	15.5	15.1	.4
October	1953	15.2	14.6	.6
	1954	16.0	15.1	.9
November	1953	15.4	14.8	.6
	1954	15.7	14.8	.9
December	1953	15.4	14.7	.7
	1954	15.5	14.7	.8

Maximum monthly variation in 1953 was .7, compared with .9 in 1954.

II. WILDLIFE

A. Migratory Birds:

1. Populations and Behavior:

a. Waterfowl:

As the period opened there were 11,300 ducks on the Batchtown Refuge and 2,450 on the Calhoun Refuge.

On the Batchtown Refuge numbers remained low until the week ended November 6. The week ended October 30 found only 5,000 ducks on the area, largely due to low water. As water came up the following week, the duck population made a tremendous jump to 114,400 birds. Two weeks later the season peak of 162,400 was found on the refuge. By the end of November

numbers dropped to only 33,900, followed by a second jump to 104,800 the week ended December 18. As the period closed, 12,800 ducks remained on the refuge.

The peak this fall was materially lower than last year, when an all-time peak of 1,070,300 ducks occurred. The high peak of 1953 was coincident with extremely heavy growths of smartweed on the margins because of low water throughout the previous summer. More open conditions this fall led to a lower peak. The fall of 1953 was the first time since we have administered the areas that Batchtown held more ducks than did Calhoun. This fall Calhoun again outclassed Batchtown as a sanctuary area.

The peak in 1953 occurred the week ended November 21, compared to the week ended November 20 this fall, so the flight arrived at about the same time both years.

On the Calhoun Refuge better food conditions prevailed than in 1953, and this, coupled with reduction of food on Batchtown, resulted in higher use of the Calhoun Refuge.

Waterfowl on Calhoun remained below 50,000 until the week ended November 6, when the first peak of the fall occurred with 138,000 ducks present. Numbers held above 100,000 for the rest of the period, with 217,000 present as the period closed. The season peak of 614,100 was observed the week ended December 11, but over 400,000 remained for two more weeks before the period closed with 217,000 ducks on the refuge.

Mallards comprised 4,470,200 days of the 5,709,200 days use on the Batchtown Refuge. Pintails were second with 417,200 days use, followed by blue-winged teal with 199,500 days and scaup with 193,200 days. No other species reached the 100,000 day mark.

Duck day use of the Batchtown Refuge was down markedly this year, with a total of 5,709,200 days use, compared to 29,907,500 days use in 1953.

As in 1953, the peak at Batchtown occurred after the hunting season opened, and remained fairly high throughout the season, thus affording good shooting opportunities for large numbers of hunters. An estimated 12,940 hunting days occurred, with a daily average of 1.67 ducks per hunter, for an estimated take of 21,900 ducks. Crippling loss was low this fall because of more open conditions, and averaged only .19 ducks per hunter, or 11.39% crippling loss, compared to 31.44% in 1953. Combined

harvest, including birds brought to bag and birds lost, indicate that a total of over 24,000 ducks were killed in the vicinity of the refuge.

At Calhoun Refuge the peak occurred just before the hunting season closed, but throughout the season over 100,000 birds were present.

An estimated 29,750 days of duck hunting was done in the vicinity of Calhoun Refuge. These hunters averaged .95 of a duck per day actually brought to bag, for a take of over 28,000 ducks. Crippling loss here amounted to only .09 of a duck per hunter, or 9.43%, compared to 14.08% in 1953. Combined harvest, including birds lost and birds brought to bag, indicates a kill of almost 31,000 ducks in the vicinity of Calhoun Refuge.

As at Batchtown, mallards comprised the bulk of the birds using the Calhoun Refuge. A total of 16,679,950 days use was made by mallards of the total of 18,626,755 days for the Calhoun Refuge this fall. Pintails ranked next with 480,200 days, followed by blue-winged teal with 345,100 days, baldpate with 291,900 days, and blacks with 226,800 days. No other species made over 200,000 days use of the area, although ring-necks with 175,700 days and scaup with 128,100 days did exceed the 100,000 day mark, which was not reached by any other species.

A comparison of peak concentrations for the two refuges for the past five years is shown in the following table:

	1950	1951	1952	1953	1954
Batchtown	79,400	49,400	192,000	1,001,800	162,400
Calhoun	150,000	321,000	478,000	303,000	614,100

This fall there was a combined total of 24,335,955 days use of the two refuges, of which 5,709,200 days use was made of Batchtown and 18,626,755 days use made of Calhoun. This represents a decrease of 80.09% on the Batchtown Refuge and an increase of 111.35% on the Calhoun Refuge. A comparison of duck day use for the past two seasons is shown in the following table.

DUCK DAY USE TABLE

	1953	1954	Change
Batchtown	29,907,500	5,709,200	80.09% -
Calhoun	8,813,035	18,626,755	111.35% +
	38,720,535	24,335,955	37.15% -

Coot peaked at 5,000 on the Batchtown Refuge the week of October 16, and used the area a total of 95,900 days; while they peaked at 35,000 on Calhoun Refuge the week ended November 6, and made a total of 736,400 days use of the area.

b. Geese:

Canada Geese

Canada goose use of Batchtown Refuge this fall amounted to only 945 days. They were found on the area only three different weeks, with 35 present the week ended October 9; only 50 present the week ended October 16; and none found again except for the 50 present the week ended November 27. This was still higher than the 385 days use made of Batchtown Refuge by Canada geese in the fall of 1953.

On Calhoun Refuge, however, a total of 50,400 days use was made, compared to 48,440 days in 1953. This species was first observed the week ended October 2, when 100 were present. They were present from then until the end of the period, peaking at 1,000 birds from December 5-January 1. As the period closed, 1,000 Canada geese still frequented the refuge.

Snow Geese

No snow geese used the Batchtown Refuge in either the fall of 1953 or the fall of 1954.

A total of 194,040 days use was made of Calhoun Refuge this fall, compared to only 75,600 days in 1953. The first snows seen this fall were the 20 which occurred the week ended September 11. They were not seen again until the week ended October 16, when 100 were present. The peak of 4,000 occurred the weeks of December 4 and December 11; and 1,500 were present as the period closed.

Blue Geese

As was the case with snow geese, no blues used Batchtown Refuge in either 1953 or 1954.

Calhoun Refuge had a peak of 6,000 blues this fall, ocurring the first half of December. The peak in 1953 was 2,000 blue geese. Total use by blue geese this fall amounted to 273,700 days, compared to 99,400 days in the fall of 1953. As the period closed there were still 2,000 of these birds on the Calhoun Refuge.

d. Egrets:

Egrets were numerous throughout September and October. After the duck season opened the birds soon departed. The peak concentration was September 10, with about 4,000 birds, compared with 2,500 birds last year.

e. Shorebirds:

Wilson snipe showed up in good numbers this year. An estimated 800 birds used the Calhoun Refuge, compared to 500 last year. Batchtown Refuge had an estimated 600 birds using that area, compared with 500 last year.

Killdeer showed some increase. An estimated 1,500 birds used both areas this fall, compared with 1,200 birds last year.

2. Food and Cover:

Food and cover conditions on Batchtown and Calhoun Refuges made a complete switch this year. Last year Batchtown experienced optimum conditions, with dense stands of flooded smartweed resulting from the pool being held low all summer and then being brought back to normal pool prior to the fall season. This year the pool was maintained at near normal levels all summer, and prevented lush growth of smartweed to return. However, the ridges and margins still had good crops of millet together with some scattered smartweed; and aquatics, such as sago, made good growth. Thus, food conditions in the Batchtown area were still fairly good, even though not up to the peak of 1953.

The Calhoun Refuge, on the other hand, showed tremendous improvement over the 1953 season. More stable water levels during the summer contributed to increased growth of aquatics such as sago, and provided a goodly amount of natural feed. Moreover, levels held up well throughout the fall, so that marginal growths of millet and smartweed could be utilized by the ducks.

An important food item on both areas was the corn made available by our recently initiated sharecropping program. Some of the best corn raised in either locality was that raised on refuge sharecropped lands, with the result that a considerable amount of food was provided. The available corn contributed to holding the large number of birds on the areas.

Cover conditions on Batchtown and Calhoun are good, but there has been some willow encroachment on Batchtown. Plans are being considered for control of this growth by spraying or other means.

B. Upland Game Birds:

1. Populations and Behavior:

The absence of extreme high water and the presence of a severe drought this past summer has evidently caused a large influx in the number of quail using the Calhoun and Batchtown Refuges. During this period six coveys were observed on the margins of the Calhoun area and five coveys on Batchtown. This number is expected to increase substantially until the ever expected flood waters again force these birds back to high ground.

2. Food and Cover:

Food and cover conditions on both refuges were more attractive this year. The severe drought experienced during the summer reduced both food and cover on dry upland areas, while the moist bottomlands were not severely damaged. The planned expansion of the farm program is expected to improve habitat for quail also.

C. Big Game Animals:

The deer population on the Batchtown and Calhoun areas is reacting similar to the quail population. During this period last year no deer were known to be on either area. Now five deer are using the Batchtown Refuge and eight have been observed at Calhoun.

Flood waters may limit extensive use of these areas by deer, but now that they are established they will probably use the area when water levels permit.

The proposed expansion of the farm program at Batchtown will undoubtedly have the approval of our only big game species.

D. Fur Bearers:

a. Muskrat:

The muskrat population continues to improve slowly. In some areas like Stump Lake a good number of houses were seen. There are more trappers this year, and they are having fair results. The Batchtown area muskrat population is still at a low level due to the draw-down of the pool during the summer months.

d. Beaver:

Beaver are holding their own in the refuge, and most of the islands have beaver signs on them. The trapping pressure is not great in this area as the price is too low on this species.

f. Raccoon:

Raccoon are plentiful in all the bottomlands. It is estimated that this species is on the increase in all the areas. Trapping pressure on coon is low, but a few more hunters have become interested in them for their meat. Fur prices for coon are still low in this area.

g. Foxes:

Trappers report the fox population has taken a decided drop from this period last year. Reports of diseased animals are frequent, indicating the possibility of an unknown epizootic.

E. Predaceous Birds:

Eagles are numerous in the Batchtown and Calhoun areas. We have estimated 150 bald eagles in the two areas, which represents a 50 bird increase from last year.

The red-tailed and marsh hawks are the most common hawks on the Calhoun and Batchtown Refuges. Their number does not seem to vary much from year to year.

The owls commonly observed in this area are the great-horned owl, barred owl, short-eared owl, and the little screech owl. There seems to be little change in their number during this period.

F. Fish:

The relative abundance of game and commercial fishes on the Calhoun and Batchtown Refuges apparently has not changed appreciably since last year. Water levels were more or less normal for this time of the year, and fishermen harvested their usual number.

III. REFUGE DEVELOPMENT AND MAINTENANCE

A. Physical Development:

Physical development on the Calhoun and Batchtown areas has been limited to boundary maintenance. Both areas have tremendous development possibilities, and we hope to get at the job as soon as funds become available.

Under provisions of the farm plan for the Batchtown and Calhoun Refuges approved in March, 1954, clearing has been done in both areas. In the vicinity of Swan Lake about 40 acres of willows were cleared last spring and placed in corn, and plans call for additional clearing this winter. At the Batchtown Refuge clearing on about 50 acres was done last spring and the land put in corn. Additional clearing is planned for the future. All clearing to date has been done by the sharecropping permittees in the respective areas.

B. Plantings:

4. Cultivated Crops:

The Batchtown and Calhoun Refuges had a very successful crop year on the bottomlands of the Illinois and Mississippi Rivers. Sixteen sharecropping permits were issued, and only one flunked out. All units, about 380 acres, were planted to corn and about 14,440 bushels were produced, with the Government's share amounting to about 4,100 bushels. This crop will average about 38.2 bushels per acre and is considered good for this year. A severe drought destroyed most of the upland corn crop in this vicinity.

Favorable weather conditions permitted all refuge corn to dry in plenty of time for good picking and storage.

At Calhoun an experimental planting of 12 acres of winter wheat was made on disced corn ground. Mr. D. O. Rettinger of the Illinois Department of Conservation furnished the seed, and a permittee cooperated in putting it in. This late planting

made good growth and was highly utilized by the geese on the area. It was found that the light discing on the corn ground still left some waste corn, and the birds were utilizing the corn as well as the green browse.

IV. ECONOMIC USE

A. Grazing:

Two grazing permits were in effect on the Batchtown Refuge during this period. The grazing season ended in October on both units with a total of 86.98 AUM's utilized. Total income realized by the Government was $45.49.

Both of these units could be developed into valuable crop fields if the clearing job can be accomplished.

VI. PUBLIC RELATIONS

A. Recreational Uses:

During September and early October the Batchtown and Calhoun areas were heavily used by picnickers and boating fans. Beautiful fall weather encouraged thousands of people to get out on the waters of the Mississippi and Illinois Rivers.

Adjacent cabin site areas administered by the Corps are now experiencing a building boom. Hundreds of cabins are being built and hundreds more are to come. These cabins will only make our public use problems more complex.

Hunting adjacent to the Batchtown and Calhoun Refuges probably provided a majority of the recreational use for this period. The hunting pressure around these two areas is almost unbelievable. Most areas have one or two days a week when there is a noticeable drop in the number of hunters, but here Monday is just like Sunday.

Recreational use in the vicinity of these areas is very high, and except for hunting, which is not permitted, recreational use extends into the refuge areas. There is a considerable amount of fishing, boating and picnicking on both areas, together with many thousands of people who stop to watch the concentrations of waterfowl.

During the past period a total of 20,760 days of recreational use was made of the Batchtown area, and 54,850 days use on the Calhoun area. A summary of this use is shown in the following table:

Refuge	Hunting	Fishing	Miscellaneous	TOTAL
Batchtown	12,940	4,240	3,580	20,760
Calhoun	31,900*	7,700	15,250	54,850
	44,840	11,940	18,830	75,610

*Includes 2,150 days of squirrel hunting and 29,750 days of duck hunting.

B. Refuge Visitors:

Mr. Clair T. Rollings, Dr. W. E. Green, and Mr. W. D. Carter were here November 21-22, checking over all parts of the refuges and examining farming and development work. Dr. Green remained two more days, working on bag checks and working up bag check data accumulated in the areas.

Mr. George Winslow from Winona was here December 5-12, helping on patrol and checking refuges.

Regional Supervisor of Wildlife Refuges, Mr. F. F. Gillett, was here on December 8, checking over farming areas and the refuges in general.

Game Management Agent Vernon Conover stopped for a brief visit on December 15.

Mr. Frank Bellrose, Illinois Natural History Survey, stopped on December 1 to pick up waterfowl data.

C. Refuge Participation:

The refuge manager and Illinois Biologist Rettinger attended a meeting of the Batchtown Sportsmen's Club and explained the 1954 regulations. During the same evening a similar meeting was attended at Grafton, Illinois.

D. Hunting:

Batchtown Area

Despite the fact that there was not the concentration of ducks in the Batchtown Refuge this fall that occurred in 1953, hunting pressure held up. An estimated 12,940 hunter days of hunting was done in the open area around the refuge.

Data were obtained from 3,603 hunters in the area, who reported taking 6,024 ducks, for a daily average of 1.67 ducks

per day. In 1953 data were obtained from 3,930 hunters, taking 6,061 ducks, for an average of 1.56 ducks per day. Thus, the success rate was somewhat higher this fall than in 1953.

Mallards comprised 88.41% of all ducks killed in this pool. Pintail ran a poor second, with 3.22%; followed by green-winged teal with 2.16%, scaup with 1.79%, and blue-winged teal with 1.76%. No other species approached 1% of the kill.

Crippling loss in this pool was much lower than in 1953, when dense cover made retrieving difficult. While in 1953 the crippling loss was 31.44% for the pool, it dropped to 11.39% this year.

It is estimated that 21,900 ducks were brought to bag in the Batchtown area this fall. Added to this was a crippling loss of 2,100 ducks, for a total kill on the pool of 24,000 ducks.

A summary of hunting success in the Batchtown area is shown in the following table:

BAG CHECK SUMMARY - Pool 25

Batchtown Area

(Most data from voluntary report cards)

	1953	1954
No. hunters checked	3930	3603
No. ducks checked	6061	6024
Av. ducks per day	1.56	1.67

Species	No.	%	No.	%
Mallard	5008	82.63	5326	88.41
Black	11	.18	30	.49
Gadwall	2	.03	11	.19
Baldpate	106	1.75	12	.21
Pintail	521	8.60	194	3.22
G.w.teal	66	1.09	130	2.16
B.w.teal	166	2.74	106	1.76
Shoveller	22	.36	7	.11
Wood duck	48	.79	-	-
Redhead	7	.12	32	.53
Ring-neck	21	.35	54	.90
Canvas-back	6	.09	5	.08
Scaup	77	1.27	108	1.79
Bufflehead	-	-	3	.05
Ruddy	-	-	6	.10

Hunters took ducks as follows:

4	700	17.81	683	18.96
3	425	10.81	369	10.24
2	577	14.68	600	16.65
1	832	21.17	985	27.34
0	1396	35.53	966	26.81

Calhoun Area

There were 2,150 days of squirrel hunting done in the vicinity of Calhoun Refuge this fall.

A total of 29,750 days of duck hunting is estimated for Pool 26 in the vicinity of Calhoun Refuge.

Data were received from 4,104 hunters, taking 3,894 ducks, for a daily average of .95 of a duck per day. In the fall of 1953 it was found that 6,185 hunters took 3,652 ducks, for a daily average of .59 of a duck per day. Thus, hunting success this fall was nearly twice that in 1953.

Mallards comprised 73.09% of all ducks killed, compared to 81.47% in 1953. Blue-winged teal placed second with 11.35%; followed by scaup at 3.80%, green-winged teal at 3.44%, and baldpate at 2.77%.

Crippling loss in this pool showed a drop. In 1953 a loss of 14.08% was recorded, while this fall the loss dropped to 9.47%.

It is estimated that about 28,000 ducks were brought to bag in the vicinity of Calhoun Refuge. An additional 3,000 birds were lost, bringing the total kill in this area to around 31,000 birds.

A summary of hunting success for the area around Calhoun Refuge is shown in the following table:

BAG CHECK SUMMARY - Pool 26

	Stump Lake	Illinois River	Fuller Lake	Calhoun Point	POOL 26 TOTALS
No. hunters	2098	262	542	1202	4104
No. ducks	1882	185	486	1341	3894
Av. per day	.90	.71	.90	1.12	.95

Species	No.	%	No.	%	No.	%	No.	%	No.	%
Mallard	1185	62.96	134	72.43	300	61.73	1227	91.50	2846	73.09
Black	13	.69	7	3.78	2	.40	7	.52	29	
Gadwall	15	.80	-	-	-	-	6	.45	21	
Baldpate	68	3.61	2	1.08	23	4.73	15	1.12	108	2.77
Pintail	56	2.98	-	-	9	1.85	4	.30	69	1.77
G.w.teal	87	4.62	18	9.73	11	2.26	18	1.34	134	3.44
B.w.teal	320	17.00	3	1.62	75	15.43	44	3.28	442	11.35
Shoveller	48	2.55	-	-	8	1.65	2	.15	58	1.49
Wood duck	2	.11	-	-	-	-	-	-	2	.05
Redhead	2	.11	1	.54	-	-	1	.08	4	.10
Ring-neck	7	.37	3	1.63	10	2.08	-	-	20	.51
Canvas-back	3	.16	-	-	3	.62	-	-	6	.15
Scaup	73	3.88	15	8.11	43	8.85	17	1.26	148	3.80
Golden-eye	1	.05	-	-	-	-	-	-	1	.03
Bufflehead	-	-	-	-	2	.40	-	-	2	.05
Ruddy	2	.11	1	.54	-	-	-	-	3	.09
Merganser	-	-	1	.54	-	-	-	-	1	.03
Hunters took ducks as follows:										
4 (limit)	131	6.25	8	3.05	21	3.87	132	10.98	292	7.12
3	105	5.00	5	1.91	27	4.98	61	5.07	198	4.82
2	230	10.96	14	5.34	76	14.02	165	13.73	485	11.82
1	583	27.79	110	41.99	169	31.18	300	24.96	1162	28.31
0	1049	50.00	125	47.71	249	45.95	544	45.26	1967	47.93

E. **Fishing:**

Windy weather curtailed the pole and line fishing on Swan Lake of the Calhoun Refuge during this period. The sheltered spots did produce some good strings of crappie, bluegill, and bass.

Commercial fishermen had a very good season this year. The catfish run was very good, and carp and buffalo were caught in good numbers. The price and demand are good in this area.

F. **Violations:**

Four violations for late shooting were processed in State court during this period. The court fined all four defendants $25.00 plus $4.00 costs.

VII. OTHER ITEMS

See following pages for special information required in narrative reports.

Ray C. Steele, Superintendent

January 10, 1955

Approved:

(Sgd.) R. W. Burwell
Acting Regional Director

Date: JAN 2 8 1955

(2) Status of Goose Flock:

No goose flock on either refuge.

(3) **Public Use:**

Summary of Recreational Use - 1954

Use	Spring		Summer		Fall	
	Batchtown	Calhoun	Batchtown	Calhoun	Batchtown	Calhoun
Hunting:	-	-	-	-	12,940	31,900
Fishing:	2,390	2,515	15,100	25,450	4,240	7,700
Misc.	1,135	1,550	9,940	29,550	3,580	15,250
TOTAL	3,525	4,065	25,040	55,000	20,760	54,850

TOTAL USE SUMMARY

Refuge	Hunting	Fishing	Miscellaneous	Total
Batchtown	12,940	21,730	14,655	49,325
Calhoun	31,900*	35,665	46,350	113,915
TOTAL	44,840	57,395	61,005	163,240

*2,150 days of squirrel hunting; 29,750 days of duck hunting.

(4) Use of Herbicides:

None used on either refuge this year.

(5) Goose Browse Preference:

Winter wheat. No variety available.

(6) Predaceous Birds:

Bald eagles are numerous in the Batchtown and Calhoun areas. An estimated 150 bald eagles used the areas this fall, representing an increase of 50 over last year.

Red-tailed and marsh hawks are the most common hawks in the area, and do not vary much in numbers from year to year. No accurate population data are available.

While no numbers can be assessed the owls, those most commonly observed or heard in this area are the great-horned owl, barred owl, short-eared owl, and the screech owl. Their numbers appear to remain static.

3-1750
Form N
(Rev. March 1953)

WATERFOWL

REFUGE Batchtown MONTHS OF September TO December, 19 54

(1) Species	(2) Weeks of reporting period 1	2	3	4	5	6	7	8	9	10
Swans:										
Whistling										
Trumpeter										
Geese:										
Canada						35	50			
Cackling										
Brant										
White-fronted										
Snow										
Blue										
Other										
Ducks:										
Mallard	200	300	300	300	400	1,000	5,000	100	3,000	100,000
Black					100	200	300		25	1,000
Gadwall							100			500
Baldpate	500	800	300	400	500	1,000	2,000	100	550	2,000
Pintail	3,000	3,500	1,000	1,000	3,000	5,000	10,000	200	1,000	8,000
Green-winged teal	2,000	2,000	500	500	500	500	1,000		100	300
Blue-winged teal	5,000	6,000	2,000	3,000	3,000	4,000	5,000		100	100
Cinnamon teal										
Shoveler	100	200	100	100	100	200	300		100	500
Wood	500	500	500	500	600	700	800	100	25	100
Redhead						100	100			200
Ring-necked							200			300
Canvasback										
Scaup					100	200	200		100	1,000
Goldeneye										
Bufflehead										100
Ruddy										100
[redacted] Mergansers										200
TOTAL DUCKS	11,800	13,300	4,700	5,800	8,300	12,900	25,000	800	5,000	114,400
Coot:					100	200	5,000	200	2,000	2,000

3-7150a
Cont. NR 1
(Rev. March 1953)

W A T E R F O W L
(Continuation Sheet)

REFUGE Batchtown MONTHS OF September TO December, 1954

(1) Species	(2) Weeks of reporting period 11	12	13	14	15	16	17	18	(3) Estimated waterfowl days use	(4) Production Broods seen	(4) Production Estimated total
Swans:											
Whistling											
Trumpeter											
Geese:											
Canada			50						965		
Cackling											
Brant											
White-fronted											
Snow											
Blue											
Other											
Ducks:											
Mallard	75,000	150,000	125,000	25,000	33,000	80,000	30,000	10,000	4,470,200		
Black	1,000	1,000	1,800	300	100	500	300	200	42,175		
Gadwall	500	300	200						11,200		
Baldpate	1,000	500	500						71,050		
Pintail	1,000	5,000	2,000	300	100	10,000	5,000	500	417,200		
Green-winged teal	400	500	300	200	100	200	100		64,400		
Blue-winged teal	100	100	100						199,500		
Cinnamon teal											
Shoveler	800	500	300	100					23,800		
Wood	100		100	100	100	100	100		34,475		
Redhead	200	100	200	200	200	300	300	100	14,000		
Ring-necked	1,900	2,000	2,000	3,000	2,000	3,000	1,000	500	108,500		
Canvasback			100	200	1,000	2,000	500	200	28,000		
Scaup	1,000	2,000	3,000	4,000	4,000	8,000	3,000	1,000	193,200		
Goldeneye				100	200	300	300	200	7,700		
Bufflehead						100			1,400		
Ruddy	300	200	200	100	100				7,000		
[illegible] Merganser	200	200	300	300	200	300	400	100	15,400		
TOTAL DUCKS	83,100	163,400	135,800	35,900	41,100	104,800	41,000	12,900	5,709,200		
Coot:	2,000	500	500	800	300	100			95,900		

(over)

	(5) Total Days Use	(6) Peak Number	(7) Total Production
Swans			
Geese	945	50	
Ducks	5,709,200	142,400	
Coots	95,900	2,000	

SUMMARY

Principal feeding areas

Principal nesting areas

Reported by Edward A. Davis

INSTRUCTIONS (See Secs. 7531 through 7534, Wildlife Refuges Field Manual)

(1) Species: In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and national significance.

(2) Weeks of Reporting Period: Estimated average refuge populations.

(3) Estimated Waterfowl Days Use: Average weekly populations x number of days present for each species.

(4) Production: Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.

(5) Total Days Use: A summary of data recorded under (3).

(6) Peak Number: Maximum number of waterfowl present on refuge during any census of reporting period.

(7) Total Production: A summary of data recorded under (4).

Interior Duplicating Section, Washington, D. C. 37944
1953

3-1750
Form [redacted]
(Rev. March 1953)

WATERFOWL

REFUGE Calhoun MONTHS OF September TO December, 1954

(1) Species	(2) Weeks of reporting period: 1	2	3	4	5	6	7	8	9	10
Swans:										
Whistling										
Trumpeter										
Geese:										
Canada					100	200	300	300	400	400
Cackling										
Brant										
White-fronted										
Snow		20					100	100	1,000	2,000
Blue							50	50	4,000	4,000
Other										
Ducks:										
Mallard	150	300	500	600	600	700	2,000	3,000	25,000	125,000
Black					100	200	300	400	400	2,000
Gadwall				200	200	200			300	300
Baldpate	400	500	500	1,000	1,000	2,000	3,000	8,000	10,000	2,000
Pintail	500	600	600	1,000	2,000	3,000	4,000	5,000	5,000	5,000
Green-winged teal	200	300	400	500	500	600	800	400	300	400
Blue-winged teal	800	2,000	4,000	5,000	5,500	8,000	10,000	7,000	400	100
Cinnamon teal										
Shoveler	300	150	200	200	200	200	500	300	500	1,000
Wood	300	500	600	700	800	800	500	1,000	300	100
Redhead						100	100		200	200
Ring-necked							100	200	200	400
Canvasback										100
Scaup					100	100	100	500	500	1,000
Goldeneye										
Bufflehead										
Ruddy								100	200	300
[redacted] Mergansers					200					100
TOTAL DUCKS	2,450	4,350	6,800	9,800	11,200	15,900	21,400	26,900	48,300	136,000
Coot:					200	500	10,000	20,000	30,000	35,000

3-7150a
Cont. NR-1
(Rev. M[illegible]h 1953)

W A T E [illegible] W L
(Continuation Sheet)

REFUGE Calhoun MONTHS OF September TO December, 1954

(1) Species	(2) Weeks of reporting period 11	12	13	14	15	16	17	18	(3) Estimated waterfowl days use	(4) Production Broods seen	(4) Production Estimated total
Swans:											
Whistling											
Trumpeter											
Geese:											
Canada	300	300	400	500	1,000	1,000	1,000	1,000	50,400		
Cackling											
Brant											
White-fronted											
Snow	3,000	3,000	3,500	3,500	4,000	4,000	2,000	1,500	194,040		
Blue	4,000	3,000	3,500	3,500	6,000	6,000	3,000	2,000	273,700		
Other											
Ducks:											
Mallard	100,000	100,000	125,000	300,000	600,000	400,000	400,000	200,000	16,679,950		
Black	1,000	1,000	1,000	2,000	4,000	5,000	5,000	10,000	226,800		
Gadwall	300	200	200						13,300		
Baldpate	5,000	5,000	2,000	500	200	300	100	200	291,900		
Pintail	500	4,000	2,000	300	100	20,000	10,000	5,000	480,200		
Green-winged teal	200	5,000	3,000	800	300	400	200		95,900		
Blue-winged teal	5,000	1,000	500						345,200		
Cinnamon teal											
Shoveler	200	200	300	100	100	100			30,450		
Wood	100		100	100	200	100	100		43,400		
Redhead	200	200	200	200	500	600	300	200	21,000		
Ring-necked	4,000	5,000	5,000	2,000	3,000	4,000	1,000	200	175,700		
Canvasback	65	100	100	800	1,000	3,000	2,000	100	46,665		
Scaup	1,000	1,000	2,000	3,000	4,000	2,000	2,000	1,000	128,100		
Goldeneye			100	200	300	200	200	100	7,700		
Bufflehead											
Ruddy	1,000	1,000	500	200	200	100			25,400		
[illegible] Mergansers	200	200	200	200	300	300	300	200	15,400		
TOTAL DUCKS	118,765	125,900	148,200	309,900	614,100	466,100	481,800	217,000	18,686,785		
Coot:	5,000	2,000	500	1,000	500	500			736,400		

(over)

	(5) Total Days Use	(6) Peak Number	(7) Total Production
Swans			
Geese	538,340	11,000	
Ducks	18,686,795	614,300	
Coots	736,400	35,000	

SUMMARY

Principal feeding areas

Principal nesting areas

Reported by Edward A. Davis

INSTRUCTIONS (See Secs. 7531 through 7534, Wildlife Refuges Field Manual)

(1) Species: In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and national significance.

(2) Weeks of Reporting Period: Estimated average refuge populations.

(3) Estimated Waterfowl Days Use: Average weekly populations x number of days present for each species.

(4) Production: Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.

(5) Total Days Use: A summary of data recorded under (3).

(6) Peak Number: Maximum number of waterfowl present on refuge during any census of reporting period.

(7) Total Production: A summary of data recorded under (4).

Interior Duplicating Section, Washington, D. C. 37944
1953

3-1751
Form [illegible]A
(Nov. 1945)

MI[illegible]T[illegible] BIRDS
(other than waterfowl)

Refuge Patuxent and Calhoun Months of September to December 195[illegible]

(1) Species	(2) First Seen		(3) Peak Numbers		(4) Last Seen		(5) Production			(6) Total
Common Name	Number	Date	Number	Date	Number	Date	Number Colonies	Total # Nests	Total Young	Estimated Number
I. Water and Marsh Birds:										
Great blue heron	20	9/4	250	10/8	3	12/30				400
American egret	200	9/4	4,000	9/10	4	10/29				4,000
Double-crested cormorant	100	9/2	3,000	10/20	2	12/20				5,000
II. Shorebirds, Gulls and Terns:										
Gulls	500	9/4	5,000	12/15	300	12/30				10,000
Killdeer	40	9/4	1,500	11/5	10	12/30				1,500
Wilson snipe	100	9/4	800	11/5	5	12/30				800

(over)

(1)	(2)	(3)	(4)	(5)	(6)
III. Doves and Pigeons:					
Mourning dove					
White-winged dove					
IV. Predaceous Birds:					
Golden eagle					
Duck hawk					
Horned owl	resident				20
Magpie					
Raven					
Crow	resident				10,000
Bald eagle					250

Reported by Edward A. Davis

INSTRUCTIONS

(1) Species: Use the correct names as found in the A.O.U. Checklist, 1931 Edition, and list group in A.O.U. order. Avoid general terms as "seagull", "tern", etc. In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance. Groups: I. Water and Marsh Birds (Gaviiformes to Ciconiiformes and Gruiiformes)
II. Shorebirds, Gulls and Terns (Charadriiformes)
III. Doves and Pigeons (Columbiformes)
IV. Predaceous Birds (Falconiformes, Strigiformes and predaceous Passeriformes)

(2) First Seen: The first refuge record for the species for the season concerned.

(3) Peak Numbers: The greatest number of the species present in a limited interval of time.

(4) Last Seen: The last refuge record for the species during the season concerned.

(5) Production: Estimated number of young produced based on observations and actual counts.

(6) Total: Estimated total number of the species using the refuge during the period concerned.

INT.-DUP. SEC., WASH., D.C.

59317

3-1752
Form 3-2
(April 1946)

UPLAND GAME RECORDS

1613

Refuge Ratcliffe and Calhoun Months of September to December, 19[illegible]

(1) Species	(2) Density		(3) Young Produced		(4) Sex Ratio	(5) Removals			(6) Total	(7) Remarks
Common Name	Cover types, total acreage of habitat	Acres per Bird	Number broods obs'v'd.	Estimated Total	Percentage	Hunting	For Re-stocking	For Research	Estimated number using Refuge	Pertinent information not specifically requested. List introductions here.
Quail									80	

INSTRUCTION

Form NR-2 - UPLAND GAME BIRDS.*

(1) SPECIES: Use correct common name.

(2) DENSITY: Applies particularly to those species considered in removal programs (public hunts, etc.). Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottomland hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.

(3) YOUNG PRODUCED: Estimated number of young produced, based upon observations and actual counts in representative breeding habitat.

(4) SEX RATIO: This column applies primarily to wild turkey, pheasants, etc. Include data on other species if available.

(5) REMOVALS: Indicate total number in each category removed during the report period.

(6) TOTAL: Estimated total number using the refuge during the report period. This may include resident birds plus those migrating into the refuge during certain seasons.

(7) REMARKS: Indicate method used to determine population and area covered in survey. Also include other pertinent information not specifically requested.

* Only columns applicable to the period covered should be used.

3-1943
FORM NR-3
(June 1945)

GAME

Refuge Batchtown and Calhoun Calendar Year 1954

(1) Species	(2) Density	(3) Young Produced	(4) Removals				(5) Losses			(6) Introductions		(7) Estimated Total Refuge Population		(8) Sex Ratio
Common Name	Cover types, total Acreage of Habitat	Number	Hunting	For Re-stocking	Sold	For Research	Predation	Disease	Winter Loss	Number	Source	At period of Greatest use	As of Dec. 31	
White-tailed deer				none									5-Batchtown 0-Calhoun	

Remarks:

Reported by _____

INSTRUCTIONS

Form NR-3 - BIG GAME

(1) SPECIES: Use correct common name; i.e., Mule deer, black-tailed deer, white-tailed deer. It is unnecessary to indicate sub-species such as northern or Louisiana white-tailed deer.

(2) DENSITY: Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge: once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottomland hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.

(3) YOUNG PRODUCED: Estimated total number of young produced on refuge.

(4) REMOVALS: Indicate total number in each category removed during the year.

(5) LOSSES: On the basis of known records or reliable estimates indicate total losses in each category during the year.

(6) INTRODUCTIONS: Indicate the number and refuge or agency from which stock was secured.

(7) TOTAL REFUGE POPULATION: Give the estimated population of <u>each species</u> on the refuge at period of its greatest abundance and also as of Dec. 31.

(8) SEX RATIO: Indicate the percentage of males and females of each species as determined from field observations or through removals.

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3-1755
Form [illegible]5
(April 1946)

DISEASE

Refuge Batchtown and Calhoun Year 1954

Botulism

Lead Poisoning or other Disease

Period of outbreak.....

Period of heaviest losses.....

Losses:

	Actual Count	Estimated
(a) Waterfowl	.....	.....
(b) Shorebirds	.....	.....
(c) Other	.....	.....

Number Hospitalized	No. Recovered	% Recovered
(a) Waterfowl	.....	.....
(b) Shorebirds	.....	.....
(c) Other	.....	.....

Areas affected (location and approximate acreage).....

Water conditions (average depth of water in sickness areas, reflooding of exposed flats, etc.

Conditions of vegetation and invertebrate life.....

Remarks.....Nothing to report.....

Kind of disease.....

Species affected.....

Number Affected Species	Actual Count	Estimated
.....	.....	.....
.....	.....	.....
.....	.....	.....

Number Recovered.....

Number lost.....

Source of infection.....

Water conditions.....

Food conditions.....

Remarks.....Nothing to report.....

3-1756
Form
(April 1946)

Refuge Batchtown and Calhoun Year 1954

Species	Relative Abundance	Sport Fishing		Commercial Fishing		Restocking		Number removed for Restocking
		Man days Fishing	Number Taken	No. of Permits	Pounds Taken	Number Stocked	Area Stocked	
Nothing to report under this.								

REMARKS:

59322

3-1757
Form M
(April 1946)

PLANTINGS
(Marsh – Aquatic – Upland)

Refuge Calhoun and Datchtown Year 1954

Species	Location of Area Planted	Rate of Seeding or Planting	Amount Planted (Acres or Yards of Shoreline)	Amount & Nature of Propagules	Date of Planting	Survival	Cause of Loss	Remarks
Wheat	An-26-11 Swan Lake area		12 acres		10/5/54	90%		This made good browsing for geese.

TOTAL ACREAGE PLANTED:

Marsh and aquatic.....
Hedgerows, cover patches.....
Food strips, food patches 12 acres
Forest plantings.....

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59311

3-1758
Form NR-8
(April 1940)

CULTIVATED CROPS

Refuge Batchtown and Calhoun Year 1954

Permittee (If farmed by refuge personnel, so indicate)	Permit No.	Unit or Location	Crops Grown	Avg. Yield per Acre	Permittee's Share		Government's Share or Return				Compensatory Services, or Cash Revenue
							Harvested		Unharvested		
					Acres	Bu. Harvested	Acres	Bu.	Acres	Bu.	
Wm. J. Chet		Au-25-1	corn	41		467				233	
Chas. Baker		Au-25-2	corn	50		134				66	
Martin Silverman		Au-25-3	corn	52		280				140	
Wilson Hartland		Au-25-4-5	corn	20		600				200	
John Tiwe		Au-25-6	corn	50		800				400	
Henry Hilton		Au-26-1-2	corn	24		567				283	
John Brinkman		Au-26-3	corn	23		428				142	
John W. Klaas		Au-26-4-5	corn	25		563				187	
Henry Schulte		Au-26-9	none								
Schulze Bros.		Au-26-10	corn	50		750				250	
Sidney Bradley		Au-26-11	corn	90		3750		800		450	
W. F. Duncan		Au-26-12-13	corn	83		1067				533	
Duff Fry		Au-26-14	corn	45		300				150	
Henry Bonner		Au-26-6	corn	27		234				116	
H. W. Dinslager		Au-26-7	corn	25		100				50	
Everett Bramble		Au-26-8	corn	40		300				100	

Summary of Crops Grown:

Crop	Acreage	Permittee's Share Acres	Permittee's Share Bushels	Government's Share Harvested Acres	Government's Share Harvested Bu.	Government's Share Unharvested Acres	Government's Share Unharvested Bu.	Total Revenue
Corn			10,340		800		3300	$

Interior Duplicating Section, Wash.D.C.

Interior—Duplicating Section, Washington, D. C. 84269

DIRECTIONS FOR PREPARING FORM NR-8
CULTIVATED CROPS

Cultivated Crops Report Form NR-8 should be prepared on a calendar-year basis for all crops harvested or utilized during the calendar year and submitted with the December 31 refuge report.

Permittee - List each permittee separately. If lands of the refuge are farmed by refuge personnel or hired labor, this should be indicated in the Permittee column.

Permit No. - List the number of the Special Use Permit issued to the individual.

Use or location - The Unit No. or name specified in the Economic Use Plan should be listed in this column.

Crops Grown - A separate line of the form should be used for each crop grown by each permittee or by refuge personnel. This is important, since if each crop grown by each operator is not specifically enumerated, the report will be of no value for statistical purposes.

Average Yield per Acre - It is important that the average yield per acre of each crop grown by each operator should be shown.

Permittee's Share - Only the number of acres harvested or utilized by the permittee for his own benefit should be shown under the Acres column, and only the number of bushels of farm crops harvested by the permittee for himself should be shown under the Bushels Harvested column. It is requested that all crops harvested be reduced to bushels wherever possible, or, as in the case with the harvesting of seed such as that of sweet clover, alfalfa, bromegrass, etc., the total harvested crop in pounds may be shown. Timothy, alfalfa, or other hay harvested by the permittee should be shown on Form NR-10 and should not be shown in the Permittee's Share column.

Government's Share or Return - Harvested - Show the number of bushels harvested for the Government and the acreage from which this share is harvested, both for grain raised by refuge personnel and by permittees. Unharvested - show the exact number of acres of crops allowed to remain unharvested as food and cover for wildlife. An estimate of the number of bushels of grain that is available for the wildlife in such unharvested crops should be shown in the Bushels column.

Compensatory Services, or Cash Revenue - Show other services received by the Government in cooperative farming activities, the number of acres of food strips planted for wildlife, the amount of wildlife crops not otherwise reported that are planted by cooperators for the Service, or the cultivation of wildlife plantations. If the permit is on a fee basis, the total cash revenue received by the Service.

5-1570
NR-8a

REFUGE GRAIN REPORT

Refuge Batchtown and Calhoun Months of September through December, 19 4

(1) Variety*	(2) On Hand Beginning of Period	(3) Received During Period	(4) Total	(5) Grain Disposed of				(6) On Hand End of Period	(7) Proposed or Suitable Use*		
				Transferred	Seeded	Fed	Total		Seed	Feed	Surplus
Yellow corn						650 in field	650	150		150	

(8) Indicate shipping or collection points

(9) Grain is stored at Meyer Farm is being fed and will soon all be gone.

(10) Remarks

*See instructions on back.

NR-8a

REFUGE GRAIN REPORT

This report should cover all grain on hand, received, or disposed of, during the period covered by this narrative report.

Report all grain in bushels. For the purpose of this report the following approximate weights of grain shall be considered equivalent to a bushel: Corn (shelled)—55 lb., corn (ear)—70 lb., wheat—60 lb., barley—50 lb., rye—55 lb., oats—30 lb., soy beans—60 lb., millet—50 lb., cowpeas—60 lb., and mixed—50 lb. In computing volume of granaries, multiply the cubic contents (cu. ft.) by 0.8 bushels.

(1) List each type of grain separately and specifically, as flint corn, yellow dent corn, square deal hybrid corn, garnet wheat, red May wheat, durum wheat, spring wheat, proso millet, combine milo, new era cowpeas, mikado soy beans, etc. Mere listing as corn, wheat, and soybeans will not suffice, as specific details are necessary in considering transfer of seed supplies to other refuges. Include only domestic grains; aquatic and other seeds will be listed on NR–9.

(3) Report all grain received during period from all sources, such as transfer, share cropping, or harvest from food patches.

(4) A total of columns 2 and 3.

(6) Column 4 less column 5.

(7) This is a proposed break-down by varieties of grain listed in column 6. Indicate if grain is suitable for seeding new crops.

(8) Nearest railroad station for shipping and receiving.

(9) Where stored on refuge: "Headquarters granary," etc.

(10) Indicate here the source of grain shipped in, destination of grain transferred, data on condition of grain, unusual uses proposed.

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3-175
Form NR-9
(April 1946)

COLLECTIONS AND RECEIPTS OF PLANTING STOCK
(Seeds, rootstocks, trees, shrubs)

Refuge.....Batchtown and Calhoun..... Year 194[illegible]

Species	Collections				Receipts		Total Amounts on Hand	Amount Surplus
	Amount	Date or Period or Collection	Method	Unit Cost	Amount	Source		
Nothing to report under this.								

3-1760
Form [illegible]10
(April [illegible]946)

HAYING AND GRAZING

Refuge.....Batchtown.....Year 19.54.

Permittee	Permit No.	Unit or Location	Actual Acreage Utilized	Animal Use Months	Tons of Hay Harvested	Period of Use From - To	Rate	Total Income	Remarks
John Titus		Cu-25-2	25	42.98		May 1 - Oct. 22	50¢	21.49	
Wilson Mortland		Cu-25-1	42	36		May 1 - Oct. 31	50¢	18.00	
				8		May 1 - Oct. 31	75¢	6.00	

Totals:

Acreage grazed.....67..... Animal use months.....86.98..... Total income Grazing.....$45.49.....

Acreage cut for hay..... Tons of hay cut..... Total income Haying.....

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3-170
Form No. 21

TIMBER REMOVAL

Refuge Batchtown and Calhoun Year 1954

Permittee	Permit No.	Unit or Location	Acreage	No. of Units Expressed in B. F., ties, etc.	Rate of Charge	Total Income	Reservations and/or Diameter Limits	Species Cut
Nothing to report under this.								

Total acreage cut over..... Total income.....

No. of units removed B. F..... Method of slash disposal.....
Cords.....
Ties.....
.....

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